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ABSTRACT

In order to help social learning become a more operational theory, this thesis attempts to create a better understanding of the conditions conducive to effective group action in a social context. Parts one and two trace the evolution of social learning theory in education and planning. Part three attempts to identify within a practical setting -- a ten-week project to plan and develop an ecology site with eighth graders -- elements of this dual process of individual change through experience and social system change through experimentation. Part four examines the impact of group structure (size and composition) on group effectiveness in participatory planning and action. It was found that four students to one facilitator appeared to be the most consistently effective ratio for beginning groups and that heterogeneity in group composition appeared to lower group effectiveness. Other variables considered included the nature of the task activity, the role of the facilitator, time, the role of structure, expert knowledge, and consensus on goals in supporting participatory action. In part five, implications for research and action are drawn from the experience with the junior high students. (Author/MLF)

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THE SOCIAL LEARNING PROCESS IN THEORY AND PRACTICE: SOME EFFECTS OF GROUP STRUCTURE UPON PARTICIPATORY PLANNING AND ACTION EXPLORED IN AN OPEN EDUCATION SETTING

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WP24

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The Social Learning Process in Theory and Practice: Some Effects of Group Structure Upon Participatory Planning and Action Explored in an Open Education Setting

A thesis project submitted in partial satisfaction

of the requirements for the degree

Master of Arts in Urban Planning

by

Lucy Eleanor Blackmar

1973

TABLE OF CONTENTS

		Page
ABSTRACT		i
PREFACE		iv
INTRODUCTION:		
	A. Purpose	1
	B. Overview of Structure	2
	C. Methodology	7
	D. Definitions	9
PART I.	THE CONCEPT OF SOCIAL LEARNING FROM A PLANNING PERSPECTIVE	11
PART II.	THE CONCEPT OF SOCIAL LEARNING FROM AN EDUCATION PERSPECTIVE	21
PART III.	THE BRIDGE FROM SOCIAL LEARNING THEORIES TO A SOCIAL LEARNING EXPERIMENT: THE WEBSTER JUNIOR HIGH SCHOOL LEARNING CENTER	29
PART IV.	THE EXPERIMENT: THE IMPACT OF GROUP STRUCTURE (SIZE AND COMPOSITION) UPON GROUP EFFECTIVENESS IN ACTION PLANNING	35
	A. The Problem	35
	B. Methodology	36
	C. Definitions and Measures	38
	D. Prior Experience Generating The Hypotheses	42
	E. Presentation of Hypotheses	47
	F. Findings and Discussion	48
	G. Summary	56
PART V.	IMPLICATIONS	59
	A. For Planning and Education	59
	1. H_1 and H_2 Variables	60
	2. Contingency Factors	61
	B. Issues For Future Research	63
BIBLIOGRAPHY		66

TABLE OF CONTENTS (Cont'd.)

	Page
NOTES ON A PROCESS OF PARTICIPATORY ACTION:	
PREFACE	70
APPENDIX A. CHRONOLOGY FROM JOURNAL	72
APPENDIX B. DATA BANK	87
APPENDIX C. PERSONAL PORTRAITS	98
APPENDIX D. SLIDES	

"Knowledge must come through action;
you can have no test which is not
fanciful, save by trial."

Sophocles
Trachiniae, 1, 592

ABSTRACT

The purpose of this paper is to explore a basic complementarity between the education and planning views of a process called social learning. The theme social learning appears in the literatures of both planning and educational theory, but the two are not to be confused. Parts I and II of this paper trace the evolution of social learning theory within each tradition. In planning theory, the social learning metaphor has been used to suggest a planning paradigm of social change evolving from experimentation and refers to the active process through which society learns about its individual members and responds accordingly. In educational theory, social learning refers more to the learning paradigm of individual change resulting from social experiences acquired through direct participation in the social process. Here the term refers to the active process through which the individual learns about society and adapts accordingly. Linking the two is the concept of action which demands understanding in practical, everyday terms in order to become a useful basis for conscious change on both an individual and a social level. Thus, the search of this thesis is for better understanding of conditions conducive to effective group action in a social context in order to help "social learning" become more operational theory.

Part III attempts to identify within a practical setting elements of this dual learning process of individual change through experience and social system change through experimentation. The experience of working with children in an open classroom provides an opportunity to observe and experiment with group processes in relation to an action planning project. The researcher was supported by a Graduate Thesis Fellowship from the National Endowment for the Arts during the spring,

1972 to engage in a ten-week project of planning and developing an ecology site with eighth graders from the Daniel Webster Junior High School Learning Center (West Los Angeles).

The focus of experimentation was upon the impact of group structure (size and composition) upon group effectiveness in participatory planning and action. Two hypotheses for developing effective group structures are presented. (PART IV.) The first, explores group size as a factor in group effectiveness by offering the standard of 5 students in relation to 1 facilitator as an optimal small group number for a classroom project contingent upon other factors. The second explores the degree to which heterogeneity among group members (i.e. black/white racial mix) lowers the optimal group size or requires additional integrating factors.

It was found that optimal group size varied in relation to the task to be performed, though a figure slightly smaller than hypothesized (i.e. 4 students in relation to 1 facilitator as opposed to hypothesized number 5 + 1) appeared more consistently effective for beginning group organization. Heterogeneity in group composition appeared to lower group effectiveness unless compensated for through integrating mechanisms such as smaller initial groupings (e.g. 1-to-1 student/teacher) or greater variety in tasks. In addition, contingency factors such as the nature of the task activity, role of the facilitator, and time emerged as significant influences upon group effectiveness throughout the project. A final class of variables discovered as significant through a retrospective review of the data record were labeled issues and relegated to future research. These included unresolved questions concerning the role of structure, expert knowledge, crisis and consensus on goals in supporting participatory action.

In Part V, concluding principles are drawn from all three types of variables (H_1 and H_2, contingencies, and issues) into implications for processes of planning and education. On a macro level these implications link processes of planning and education to the social learning model of participatory action. Finally, as a methodological model in planning and a curriculum model in education, the Webster experience serves to illustrate on a micro level the clear and reciprocal relationship that exists between the changes in society and the changes in man.

PREFACE

The question is often asked: "What is educational planning?" - particularly of those of us who claim, in some vague sense, to be educational planners. During the past two and one-half years at the UCLA Urban Planning School, I have failed to develop a satisfactory response to this question. Yet, it seems that the question needn't be so puzzling.

An educational planner, like any other planner, is concerned with relating knowledge and organized action to bring about conscious change. But as the process of education concerns the individual in society, the educational planner's particular emphasis is upon the individual and the learning process which effects his relationship to society. The definition is broad and indeed, to accept it, leaves few realms of social interference outside the educational planner's domain.

The question then becomes how to effect what the individual learns in society so as to somehow effect how he behaves in society. It is here that "planning" as a methodological approach is most challenged by the paradoxes of power which plague the day to day efforts of any society to operate in an efficient and just manner. Such dilemmas force planning into a value context - compelled to make explicit its assumptions concerning the nature of man in the universe. For example, "in social reform, or the application of intelligence to the control of social conditions... this assumption takes the form of belief in the essentially social character of human impulse and endeavor." (Petras, 1968, p. 128.)

Traditionally, the role of the educational planner in this social process has involved him in the design of a society's formal educational

system applying his professional expertise to the development of any of the system's multi-components from curriculum design to resource allocation. Here the educational planner confronts the educational system as a design problem requiring tools of analysis for understanding system's goals and resources in a context of human needs and situational constraints, so that he can design-implement-evaluate a program of change.

Yet, increasingly there is recognition of just how little of the learning process really goes on in schools. The individual's educational system is all the social and physical environment which surrounds him - particularly that part of the environment with which he interacts directly. As a result, the concept of educational planner is being understood outside a systems (or institutional) context. He is, instead, first and foremost an individual capable of influencing the social environment of other individuals by virtue ofspecialized knowledge or organizational capacities. He becomes a part of the system he intends to change as an active participant or change agent. The community development model of participatory planning and action serves to illustrate this process whereby planner and a community of individuals work co-operatively to learn and organize activities intended to bring about desired and orderly change. The planner replaces his image of "engineer" with a less professional one of "guide", "consultant", "organizer"...or perhaps "educator".

Thus, with this latter emphasis upon the social process as the focal point of human change, the processes of planning and education are brought into closer association. While conceptually planning processes might be thought of as aimed at social system changes and educational processes might be concerned with individual changes, there is an affinity between the two. Indeed, there exists a clear and reciprocal relationship between the changes in society and the changes in man which has always

been a major theme in planning theory (e.g. Mannheim's reconstruction of society through the re-education of man).

Now the theme social learning provides me with a chance to explore even more closely this relationship between processes of planning and education on both theoretical and practical levels. "Social learning" as a process addressed in both education and planning theory represents two sides of a dialogue that apparently haven't met in the literatures of either field. This thesis project represents a pilot attempt to bring them together in a practical setting, the Webster Junior High Learning Center - an experimental program in open education.

The action project of planning an ecology site with eighth graders was intended as an experiment in action research to simultaneously explore processes of planning and education and most significantly, the relationship between the two. It is in many ways a study in dialectic thought as it attempts to move between processes of planning and education; theory and practice; research and action; observation and participation; individual change and social change; planning and evolving - all under the umbrella of a purposeful action project. And its value must be ultimately assailed in terms of "social learning" criteria of personal experience leading to human development and social change.

The students from the Webster Learning Center were involved in a self-initiated activity of developing an ecology site upon the land adjacent to their classrooms. Their teacher was concerned with the quality of learning experiences within her classroom and with the image of the Learning Center so that it might be allowed to continue into a second year of experimentation. The knowledge that student participation built steadily during the ten-week project culminating in an award in

environmental education from the Los Angeles Unified School District may serve to highlight the legitimacy of such experimentation within the classroom.

This project of working with a group of twelve and thirteen year olds in an open classroom for ten weeks last year perhaps holds its greatest significance in terms of my personal experience. The influence of these students and their teacher who shared her role with me upon my future thoughts and actions will provide the most tangible evidence that this was indeed an experiment in social learning. The lesson for the educational planner is clear - i.e., he must continue to involve himself in practice as well as theory to avoid becoming detached from those whose interests he would advocate. They are the true educators. And the planner must rediscover his role as the "learner" even while realizing that through learning comes the power for change.

INTRODUCTION

A. Purpose.

The general purpose of this paper is to contribute to the understanding of planning as a social process by relating theories of planning and education that have dealt with concept of social learning, and exploring what they mean in an everyday setting.* Social learning from both perspectives is that learning or knowledge that results from action, and thus, any deepened understanding of the process or methodology behind social learning requires more detailed understanding of the conditions making effective action possible. As actions are performed by individuals in a specific social/historical context, social groups and social setting play an obviously significant role in determining what is done and consequently, what is learned.

Critical to this parallel process of how society learns about the individual through action and how the individual learns about society through action is the nature and structure of each social experience. Therefore, the focus of experimentation in this paper is upon the nature and structure of social groups as they relate to an action project in the classroom.

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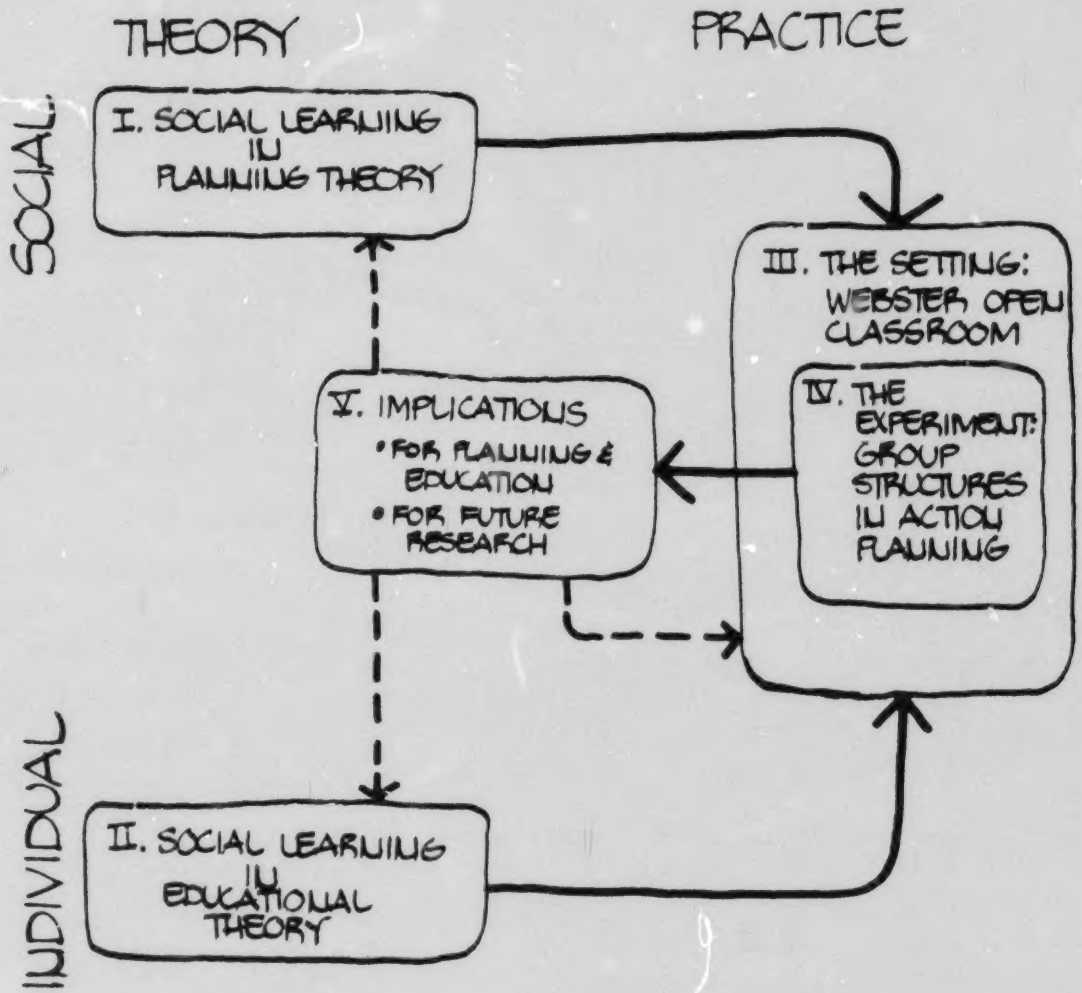
*It should be noted that social learning theory represents neither a traditional view of the planning process nor an inclusive category in educational theory. Under this rubric have developed very distinct traditions of thought with specific meanings and associations unmentioned in this paper. Individual courses on social learning theory in either a planning or education school would no doubt elaborate on these separate perspectives and their historical contexts in a very different way. But the attempt here to draw the two sets of theory together in a common discussion of the social learning process seems valid - if somewhat artificial or over-simplified - for the purpose of furthering understanding of the role active social participation can play in bringing about change.

B. Overview of Structure.

The contents of this paper might be summarized by the following organizing paradigm:



Parts I. and II. are devoted to theory in presenting the concept of social learning from planning and educational perspectives. Part III. attempts to apply these theoretical elements in a practical setting - i.e. Webster Jr. High School open classroom. Part IV. describes the experimentation with group structures (size and composition) in relation to an action planning project within the classroom setting. Part V. discusses implications of the experience for both theoretical and practical levels of planning and education.

The paper is structured around a view of research as involving inquiry on both theoretical and practical levels. It is the dialectic between theory and practice which fosters new understanding on both levels and is the underlying rationale for the focus on action research in this paper as a mechanism for contributing new insight into theory.

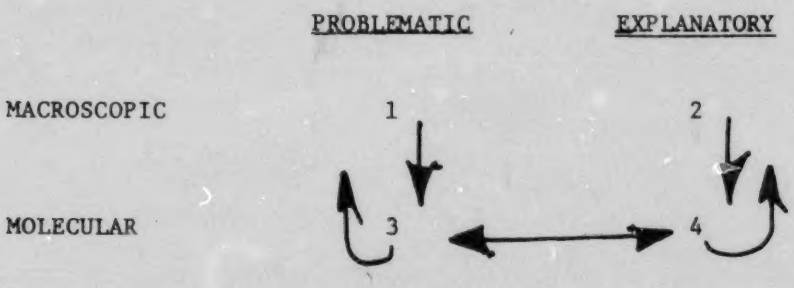
This approach to research is analguous to a research schema developed by C. Wright Mills in his essay "Two Styles of Social Research" (1953). An attempt to conceptualize elements of this paper in terms of Mills' categories may sharpen understanding of the organizing paradigm.

Mills distinguishes between two basic models of inquiry in social science - the macroscopic and the molecular. The first involves high levels of abstraction or theory of whole social structures and deals with a large number of variables in a generalized manner. In contrast, molecular analysis is concerned with lower levels of abstraction--small scale statistical models aimed at studying a few precisely observed elements. Where the macroscopic concerns social philsophy, the molecular focuses on technique. Each offers a limited explanation of reality.

Thus, Mills suggests that:

> "...the sociologists' ideal task during the next decades is to unite the large problems and theoretical work of the 19th century, especially that of Germans, with the research techniques predominant in the 20th century, especially that of Americans." (Mills, 1953, p. 554)

He offers an "ideal" procedure of shuttling between levels of abstraction inside each phase of a simplified two-step act of research: (1) The Problematic--what-is-to-be-explained, and (2) The Explanatory--concepts used to explain the problem gathered in a model of explanation. (Mills, 1953, p. 563)



> "Only by moving grandly on the macroscopic level can we satisfy our intelligent and human curiosities. But only by moving minutely on the molecular level can our observations and explanations be adequately connected." (Mills, 1953, p. 463.)

The procedure calls on research to move from the macroscopic to the molecular in both problematic and explanatory phase (1 to 3 and 2 to 4); then to relate the two on the molecular level (3 and 4); then to return to the macroscopic level (3 to 1 and 4 to 2). Such a process can culminate in cautious relations drawn on the macroscopic level (1 and 2). (Mills, 1953, p. 563.)

The attempt in this paper is to use Mills' procedure as a conceptual model for linking theoretical understanding of the social learning process to a practical setting of an open classroom. The contents of this paper

might be summarized in terms of Mills' scheme by the following matrix:

	Problematic	Explanatory
Macroscopic	(1) Social Learning Process	(2) Participatory Action
Molecular	(3) Webster Open Classroom	(4) Group Structure: Size and Composition

On the macroscopic level is the discussion of the social learning process in planning and education theory explained as a model of participatory action effecting both individual learning (educational experience) and social change (planning experimentation). On the molecular level, an open educational setting (Webster Learning Center) is used as a research setting providing an action planning project as a small scale model of the social learning process from both education and planning perspectives. The testing of this model comes from experimentation with group structures (size and composition) in relation to participatory action in the project.

The organizing paradigm which shows this paper divided into five parts is analguous to Mills' schema.

Problematic (1-3): What-is-to-be-explained.

The concept of social learning in planning and educational theory as indicated through the open education model.

Explanatory (2-4): Model of explanation.

Participatory action as indicated through group processes evolving individual and social setting change.

Molecular (3-4): Small scale model.

Webster Open Classroom as an empirical setting for testing effects of group structures (size and composition) upon participatory

action.

(3-1): Ecology action project within Webster setting as model of social learning processes in both its education and planning senses.

(4-2): Experiment focus: The effects of group structure (size and composition) upon participatory action within the context of the total system (1, 2, 3, 4).

H_1: Group Size.

Small task groupings involving 5 students in relation to 1 facilitator are likely to result in greater group effectiveness within a classroom project than larger or smaller groupings.

H_2: Group Composition

Hetegogeneous groupings (here defined as black and white students working cooperatively) have greater difficulty achieving group effectiveness within a classroom project and consequently depend upon other integrating variables for effectiveness.

Macroscopic (1-2): Conclusions on Level of Social Philosophy.

The social learning process in planning and educational theory as a change process involving participatory action.

C. Methodology.

Data from the case study of Webster Junior High School Learning Center Program in open education was primarily obtained using techniques of participant observation. Such personal immersion by the researcher or planner seemed both consistent with the social learning process as a social science methodology and with the goal of recording the fullest dynamics of social interaction in a learning environment. Glaser and Strass (1967) lay a strong basis for such qualitative research:

> "The 'real' life character of field work knowledge deserves special emphasis because many critics think of this and other qualitatively oriented methods as being merely preliminary to 'real' (scientific) knowing. But a firsthand immersion in a sphere of life and action--a social world--different from one's own yields important dividends. The field worker who has observed closely in this social world has...been sufficiently immersed in this world to know it, and at the same time has retained enough detachment to think theoretically about what he has seen and lived through . . . His display of understanding and sympathy for their mode of life permits sufficient trust in him so that he is not cut off from seeing important events, and perhaps seeing important documents. If that trust does not develop, his analysis suffers." (Glaser and Strauss, 1967, p. 226.)

Similarly, an article written by the Center for New Schools for the Harvard Educational Review (August, 1972) presents a section on "Productive Methods for Gathering and Analyzing Useful Information" on Alternative Schools which is similar to the methodology for obtaining data used in this paper:

> "We have found that the most fruitful method of research on alternative school development is participant observation and informal interviewing. This approach provides the most effective basis for understanding the complicated interrelationships of specific practices, process goals, and outcome goals as they are reflected in people's day-to-day behavior. It provides the best means for understanding the crucial issues of subgroup behavior and success in carrying out vital institutional functions. Finally, this approach meshes well with the style of alternative schools, where cooperation for extensive techniques, such as testing and structured interviewing, is difficult to obtain, but where people are relatively open to having a researcher hang around to observe what goes on and ask a few questions.

Those unfamiliar with participant observation methods often mistake it for superficial journalistic reporting or the recounting of random anecdotes. On the contrary, there is a rich methodological literature on participant observations that suggests methods for gathering and analyzing information...

The primary "instrument" for participant observation is a person or group of persons who observe alternative school settings, ask questions, and record their perceptions as accurately as possible in a stream of written notes. Of course, this process of observing, questioning, and recording can not be carried out without some selectivity and bias . . .

Through a continuing process of sensitive investigation, enough information is accumulate to develop a set of specific hypotheses about the general areas of concern . . .With tentative hypotheses framed, we gathered additional observation and informal interview data related specifically to these hypotheses . . ."(HER, August, 1972, p. 344-346.)

Finally, by way of justifying the methodology of this research, I would add a maxim on methodology paraphrased from Mannheim's quotation in Ideology and Utopia (1936):

"To work in the social sciences one must participate in the social processes."

To understand the process of social learning, one must become a part of it through interaction with the individuals and social groups being studied through research . . .

In the same vein, Dunn writes:

". . . the social learning metaphor changes the relationship of the social scientist to social action. He can no longer abstract himself from social action when it becomes the evolutionary experimentation by means of which social systems pursue and modify their goals . . The contribution he can make to the rationalization of the process of social learning cannot be fully carried out without becoming an actor in the process itself . . ." (Dunn, 1971, p. 251 & 252.)

D. Definitions.

This study is structured around a series of broad concepts which can appear vague and relatively meaningless unless pinned to some precise usage. Therefore, the following section attempts to highlight these key words and their distinguishing emphasis within this paper. Some are used rather unconventionally and it will remain for the context of this entire paper to further expand on their clarity.

Planning is here viewed as a social process of evolving change through experimental action. As a conscious strategy as opposed to a random process, it involves organization of individuals in a manner which both effects the nature of experimentation and the understanding and usage of results. Thus, planning in this paper reverses its traditional emphasis upon bringing knowledge to bear on organized action by focusing on the process by which organized action can result in new knowledge (or what will later be called social learning).

Similarly, education as used in this study is less concerned with the passive process of transmitting knowledge to the individual than with the activity process through which the individual acquires new knowledge. This process might be best summarized by Dewey's phrase "learning by experience".

Action is used as the unifying concept between the planning process of social change and the educational process of individual change. Here specifically action refers to conscious social action as opposed to the random activity process the results by virtue by being alive. Distinguishing both planning and educational activities is this element of purposefulness - "an intentional mobilization - individual or organized - and use of resources to produce a given effect." (Friedmann, "Some Thoughts on the Phenomenology

of Action.")

Broadly defined, social learning is the product of social action performed in a specific environmental and historical context. On an individual level, it is the educational process by which the individual learns about society and changes as a result of direct experience with social action. On a societal level, it is the process of planning or social change by which a social system learns more about itself and its members as a result of direct experimentation with social action. In both instances, it is a conscious process of action which results in new understanding or learning and therefore, the potential for change.

PART I.

THE CONCEPT OF SOCIAL LEARNING FROM A PLANNING PERSPECTIVE

Planning can be thought of as the process or activity concerned with the linkage of knowledge with organized activity. (Friedmann and Hudson, 1973, p. 2.) Its object is change within the boundaries of the social system within which it is performed. Such change aims at bringing about a more conscious and consistent future within those boundaries by making clearer - more rational - the alternatives for action available in the present.

Traditionally, planning theory has emphasized the knowledge side of the dialetic between knowledge and action- i.e., the tools and techniques for gathering scientific and technical information. Planning has been thought of as a rational process operating under the assumption that more rational knowledge will result in more rational action in a direct cause and effect sequence. The action side of planning has concerned mobilizing the power within society to utilize such knowledge in a manner which is both efficient and equitable in achieving certain predetermined goals.

Recent theories of planning have stressed the limitations of such traditional models of planning applied to practical situations. The critiques have emphasized that planning as a rational methodology fails to take into account the value and historical considerations which make the present unique and the future unknowable. Moreover, such traditional notions of planning fail to address questions of how a social system becomes capable of changing its boundaries in response to its unique experience.

These newer theories form what might be called the humanistic tradition within planning theory. Essentially, this tradition evolves from a man-centered view of the world simply expressed by the following dynamic:

> "Society as part of a human world, made by men, inhabited by man, and in turn, making men, in an ongoing historical process." (Berger and Luchman, 1967, p. 189.)

The theme is common to Western thought as Berger and Luchman so brilliantly point out in their book The Social Construction of Reality (1967) tracing an awareness of the social foundations of value and world views to antiquity through modern social theory and the evolution of the concept, "sociology of knowledge" as the discipline devoted to understanding the social factors effecting man's consciousness. (Berger and Luchman, 1967, p. 4&5.)

Planning as a conscious process, however, goes a step beyond this search for scientific explanations of the social process:

> "In society we are the forces that are being investigated, and if we advance beyond the mere description of the phenomena of the social world to the attempt at reform, we seem to involve the possibility of changing what at the same time we assume to be necessarily fixed. The question, stated more generally, is: What is the function of reflective consciousness in its attempt to direct conduct?" (Petras, 1968, p. 128)

Planning thus becomes a social process rather than a deterministic process aloff from social values and institutions. It is entrenched in the action side of the planning relationship between knowledge and action - i.e., the day to day social activities or experiences of a culture which determine its unique character and the evolution of its change.

The roots of this philosophy of social change through conscious social action rest with Marx who early articulated an understanding of man's consciousness being determined by his social being. (Berger and

Luchman, 1967, p. 4 and 5.) His writings perhaps lay the foundation for understanding planning as a social process. In any case, this paper will attempt to expand this view of palnning by drawing five writers from the humanistic tradition in planning theory into a common perspective. This perspective is here labeled social learning - metaphor contributed by Edgar Dunn in Economic and Social Development (1967). The others, Karl Mannheim, Amitai Etzioni, John Friedmann, and Charles Hampden-Turner, offer equally important themes to understanding this view of planning. Mannheim locates social reconstruction in the re-education of man. Etzioni develops a social change model based on the notion of the "active society". Friedmann and Hampden-Turner focus on the human learning process through their respective concerns with the process of "mutual learning through dialogue" and "psycho-social development".

Emphasis upon planning as social experience holds multiple implications. Most significantly, it focuses attention upon the social context of each planning situation and the role each individual can play as a social being in bringing about co-operative social change. It suggests a model of planning which is process oriented rather than product or goal oriented; active rather than passive; situational rather than universal; participatory rather than authoritarian; and evaluated by social criteria of human development rather than economic criteria of efficiency. Planning becomes associated with social action or experimentation and with functions supporting action such as organization and guidance.

The product of such action is experience which through time changes both the individual social member and the society of which he is a member in a cyclical process. For the individual the process is one of learning and results in changes in behavior. The results of individual

experiences in turn can be amplified through co-operative group action. (Dunn, 1971, p. 78) Thus, what the individual learns about society through active experience in turn effects the character of social change. A social learning system reflects the shared experiences of its members and becomes capable of changing its goals and boundaries in response to such experiences.

By way of a definition, the social learning process is one of experimental social action performed in a specific environmental and historical setting by a group of persons consciously seeking to solve a particular problem and/or satisfy personal and social goals. It results in on-going changes in both these personal and social goals as well as the character of the institutions designed to meet them. Therefore, social learning as a planning methodology involves change through experimental action. It is the knowledge of the individual unique to each setting that is essential to responsive change within that setting. In other words, planning as a form of social learning enables the society to learn about the individual through action (experimentation) in much the same way as the individual learns about society through action or experience. (Part II.)

In summary, the social learning process suggests a model of social change which can be characterized as active, situational, participatory, and process-oriented. These structural qualities must be viewed as relational and dependent upon context for their meaning in human culture.*

*See "Structuralism: An Exciting Theory about Culture" in The Stanford Observer, April, 1973, for an expanded view of this process of linking a system of meanings to a cultural context.

Distinguishing the model is its emphasis upon social effectiveness as opposed to economic development which has been a cornerstone of traditional planning evaluation.

Scanning the writings of each of the five planning theorists previously mentioned reveals certain re-occurring themes which make this model more operational. Their respective insights can be synthesized into five abstract qualities of the social learning process along with six dimensions which make these qualities more operational. The model must be understood as wholistic and irreducible - i.e., it describes a dynamic process which is greater than the sum of its parts. Similarly, each of the six operational dimensions is relational to each of the other five as well as to the whole model composed of abstract qualities. In this paper, focus will be upon the dimension of group processes as a portal for expanding understanding of the other operational dimensions and ultimately for understanding the dynamics of the social learning model itself. The following table summarizes the relationship between abstract qualities and operational dimensions:

THE SOCIAL LEARNING PROCESS AS A PLANNING PARADIGM	
ABSTRACT QUALITIES OF MODEL OF PARTICIPATORY ACTION	OPERATIONAL DIMENSIONS
Active	Direct Communication
Process-Oriented	*Group Processes
Situational	Applied Activity
Participatory	Flexibility
Social	Participation
	Goal of Human Development

*This dimension of group processes provides the focus of experimentation within this paper.

In addition, each of the operation dimensions can be better understood theoretically by consulting the following citations from the writings of Mannheim, Etzioni, Friedmann, Dunn, Hampden-Turner. The list is by no means complete of exhaustive, but rather represents a beginning attempt to relate the writings of these five theorists to the common theme of social learning.

SUMMARY OF DIMENSIONS OF THE SOCIAL LEARNING PROCESS IN PLANNING THEORY

DIMENSION	CITATION
1.) Direct Communication:	
Capacity for dialogue or two-way information exchange between participants.	Mannheim, p. 131 Etzioni, p. 42 Friedmann, p. 257 - (manuscript) Hampden-Turner, pp. 29, 51, 87, 92 Dunn, pp. 227, 229-232, 247, 255
*2.) Group Processes:	
Focus on small social group as vehicle of change.	
"Small group" defined in terms of allowing high degree of face-to-face communication.	Etzioni, p. 42
Task-oriented working groups.	Friedmann, p. 257 - (manuscript)
Small group climate as the developmental vehicle.	Hampden-Turner, p. 186
"The sharing of experiences has created the opportunity for individuals to amplify the components of group behavior through co-operative group action."	Dunn, p. 78

DIMENSION	CITATION
3.) Applied Activity:	
Revised knowledge in accord with experience.	
Experimentation	Mannheim, p. 129
Reality-testing	Etzioni, pp. 33, 136, 155, 173 ff.
Personal knowledge which emerges from encounters with practical realities.	Friedmann, pp. 242, 251 (manuscript)
Testing developmental hypotheses (reality-testing of the social experiment).	Dunn, pp. 252, 254
Existential perspective of investing personal meaning through experiences - a process by which human personality is invested beyond the mind into the social environment so man is conceived as a radiating center of meaning.	Hampden-Turner, p. 23
4.) Flexibility:	
Open to change in response to experience.	
"Empiricism only answers theoretical questions if the theory is framed to fit new problems and enlarged experience."	Mannheim, p. 9
Man generates feedback and control to reconstruct society.	Friedmann, p. 242 - (manuscript)

	DIMENSION	CITATION
4.)	(cont.d)	
	Social learning in concerned with the revision of social system boundaries through social action or experimental design in social/historical setting.	Dunn, p. 254
	Active society which is responsive to its changing membership and engaged in intensive, perpetual self-transformation.	Etzioni, p. 12
5.)	Participatory Structure:	
	a. Planner Participation.	
	Social scientist (planner) as active participant in social process.	Mannheim, Ideology and Utopia, p. 46
	b. Social Member Participation.	
	Living in a social environment tends to foster the sharing of activity as well as information. This has led to social behavior at a higher order level of system complexity--the social system.	Dunn, p. 73
	Elements of conscious goals, commitment and power distributed among all participants in setting. (Society in which all major groups actively participate in public life is society whose values are more fully realized; participation is prerequisite.)	Etzioni, p. 5, p. 625-626, p. 31, p. 12

	DIMENSION	CITATION
6.)	Overall Goal of Human Development:	
	Reconstruction of society through the re-education of man.	Mannheim
	Active society through self-conscious knowing actor.	Etzioni
	Social evoluation through development of individual growth motives.	Dunn
	Learning society through personal growth.	Friedmann
	Social change through process of psycho-social development.	Hampden-Turner,

To fully understand the operational dynamics of the process called social learning will require observing these dimensions in practice. Examples of social learning experiments are found on all levels and in all walks of life in modern society. In areas of education, business management, government, and personal living, experiments are currently underway which reflect these operational dimensions of the social learning process. By nature of the fact that they are social learning experiments, they are evolving experiments in response to particular environmental contexts. Yet, they represent unique and changing experiences that can provide new insights transferable to other settings should their participants be willing to "pause and reflect" in order to bring their lessons to the level of consciousness.

In this paper, I will examine the education context through a case study of an open classroom in hopes of not only better understanding the operational dimensions of social learning cited in this section, but of also

providing a link between planning and educational perspectives on the social learning process.

PART II.

THE CONCEPTS OF SOCIAL LEARNING FROM AN EDUCATIONAL PERSPECTIVE

The second half of the dialogue between planning and educational theory concerns how the individual learns about society during the course of his daily living. The focus here is upon man and his changing values, attitudes, and beliefs as the underlying basis of social change. For the individual, the process of education is the antithesis of alienation as it integrates him into the social process. The process is at once formal and informal. The formal process of education includes those institutions of society designed to aid in the socialization process of the individual, while the informal process of education refers to the natural learning process which accompanies the normal course of human development.

Both influences culminate in what might be called "social learnings" for the individual, and it is these individual learnings that this paper refers to when it uses the phrase social learning in an educational sense. Included in this category are the individual learning about himself, others, his environment, and the nature of problem solving, i.e., the personalized and practical knowledge of survival.

Uncertainty as to just how such personal knowledge is best acquired by the individual has resulted in a spectrum of theories within the education literature which deal with this broad phenomena of "social learning". The phrase is less readily used specifically, however. When it is, it most commonly appears in a normative context in referring to the knowledge or values which a given culture associates

with a "well socialized" individual. Such a view can be narrow and misleading in that it suggests that social learnings can be prescribed for the individual through a set of static norms. The consequence has been that curricular programs designed to enhance "social learning" within the schools have often reflected no more than training in the "social graces" or the transfer of information deemed essential to "good citizenship". Illustrative of this narrow view of social learning is Edna Ambrose's definition in Children's Social Learning:

> ". . . those controls of behavior which a person develops as he lives through and reacts to social situations. They influence his behavior in the various groups with which he associates. Included are such learnings as values, ideals, ways of relating to others, ways of solving social problems, social concepts, and feelings--especially feelings about oneself and others . . . In short, they are the learnings that enable an individual to take a satisfying and useful place in the various groups with which he is associated." (Ambrose, 1958, p. 2.)

Missing in such a definition is any understanding of social learning as a dynamic process of evolving individual consciousness through social behavior. Rather than a process of socialization based on normative ideals, it should become a process of readjustment based on experience.

The implication is that the individual is engaged in the process of social learning throughout his lifetime. Acceptance of this premise is a basic tenet of American Pragmatic thought - a tradition whose impact has been felt on the character of American public education from the era of the Progressive Education Movement through the current expression of pragmatic principles in the Open Educational Movement. School experiments throughout this century based on the child-centered model have, in a sense, attempted the synthesis of informal and formal methodologies for

"social learning" at the level of the classroom. Pragmatic philosophy laid the cornerstone for changing expectations of human activity in the classroom while the results of such activity have led to new understanding of how the individual learns and develops in relation to his environment.

As a result, prescriptive patterns within the schools have been supplemented by better understanding of individual self-learning in relation to his environment. John Dewey - perhaps the most prolific and most widely read of the pragmatic philosophers - called it "learning by experience". His contemporary, George Herbert Mead contributed equally significant themes. Most significantly, Mead developed a notion of social behaviorism to characterize the process by which the "mind and the self" emerge from direct communication between organisms. (Morris, 1934). He identified reflexivity or the ability of a person to reflect upon himself as the necessary condition for the emergence of the mind within the social process. Through this process, the social act is imparted within the individual and serve to alter the person's ongoing acts. (The Philosophy of the Act, Morris, 1938).

Thus, Mead's understanding of the social conception of nature and of the location of reality in the present provides a much more germane foundation for defining social learning from and education perspective than most of the literature in educational psychology under the rubric "social learning". The following quotation effectively capsulizes Mead's understanding the notion of social learning which this paper is trying to develop:

> "A conception of a different world comes to us always as the result of some specific problem which involves readjustment of the world as it is, not to meet a detailed ideal of a perfect universe,

but to alleviate the present difficulty; and the test of the effort lies in the possibility of this readjustment fitting into the world as it is. Reflective consciousness does not then carry us on to the world that is to be, but puts our own thought and endeavor into the very process of evolution, and evolution within consciousness that has become reflective has the advantage over other evolution in that the form does not tend to perpetuate himself as he is, but identifies himself with the process of development." (Petras, 1968, p. 128 and 129.)

The significant contribution of Dewey and Mead, along with the other noted empiricists of their day (Pierce, Lewis, James) was to root individual learning about society in the social process and to articulate a methodology of experimentation that could transform the schools and ultimately the character of democratic institutions.

Over the course of three decades, subsequent writers have built upon these foundations through research, practical experiments, and developed theory which has seen the concept of social learning expressed by phrases such as "environmental learning", "action learning", "project learning", "sensory-motor learning". Basic to all has been the theme "learning by doing" or as expressed by this paper's opening quotation from Sophocles: "knowledge must come through action."

More recently, a rich body of popularized literature has emerged expousing the need for more relevant, experience based education in order to better prepare a multi-society for survival in an changing technocratic world where social skills and problem solving capabilities may well become the most adaptable tools of learning. From Kozal, Kohl, Holt, and Silbermann, the message for educational theory and practice has been the same calling for a new understanding of the learning process around principles of personal development through action, communication, and spontaneous expression in the classroom so that the experience of

childhood might become "real" and ladden with personal significance capable of being translated into moral and social values in adulthood. Such ideas have resulted in an extraordinary number of experiments with open classrooms across the country since the mid-sixties and as each has adapted to its specific context and struggled to improve over-time, new understanding of the social process at the classroom level has been provided.

The British experience with primary reforms since World War II has not only had a substantial impact on the American Open Education Movement, but also represents "bottom-up" movement in social reform. The landmark Plowden Report seems to have set the stage for a series of step-by-step, classroom-by-classroom experiments throughout the British Isles (the most publicized being the experiments of Leicestershire County in the late sixties). Together these reforms contributed educational concepts such as "the project method", "integrated day", "vertical grouping", along with a new sensitivity to the central role of teacher as organizer of the learning environment.

A final tradition which must be cited in any discussion of the evolution of the concept of social learning within American educational theory is that advanced by Jean Piaget and his followers in the school of developmental psychology (Baldwin, Isaacs, Luria, Bruner). Piaget's primary contribution, based on very detailed and precisely designed experiments, was to associate cognition at all genetic levels with real actions performed by the subject. (Piaget, 1959b, 1950a, 1950b, Vol. 1, 1954c, 1955d, 1957b, 1957c, Piaget and Inhelder, 1956; Inhelder

and Piaget, 1958 in Flavell, 1963.) The Plowden Report summarized this monumental breakthrough in the understanding of the learning process:

> Learning takes place through a continuous process of interaction between the learner and his environment, which results in the building up of consistent and stable patterns of behavior, physical and mental. Each new experience reorganizes, however slightly, the structure of the mind and contributes to the child's world picture. (Nyquist & Hawes, 1972, p. 30)

The impact of continuing research by Piaget's follower's has been a refinement of understanding of when and how various social attributes from co-operative play to moral understanding occur within the developing child as a basis for structuring more appropriate learning experiences within organized education. The principle that "the most favorable environment depends on the age of the child and his own particular rate of development" (Scott, 1968, p. 15) has made such research a fruitful basis for restructuring American education.

In summary, Pragmatism as a philosophy espoused by thinkers such as Dewey, Mead, Pierce, James, Lewis; developmental psychology as a research methodology for understanding human potential for change in operational terms; and open education as a movement to render the classroom activity closer to "life" through informalizing physical and social arrangements, converge to form the understanding of social learning form an educational viewpoint which is presented in this paper.

Social learning in its educational sense, therefore, refers to the process by which the individual learns about society through taking action upon it. The following summary of the philosophy of pragmatism effectively summarizes this understanding of the social learning process on the

individual level:

> ". . . it was a theory of the reflective and experimental operations of intelligence in conduct responsive to needs and directed to rendering future experience malleable to human growth and satisfactions. The concentration of analysis was on the possibilities of human action in a contingent and changeful world and on the function of thought and language as ways of discovering the goods attainable in it, as well as making any enjoyment of these more luminous and complete." (H.S. Thayer, 1970, pp. viii.)

In the traditional school context, opportunities for such action are more confined. But within "open" classroom, the attempt has been to allow the student the freedom to explore and respond to active learning situation along with his peers and under the watchful guidance of his teacher so that his experience in this school community might better prepare him for survival and an active role in influencing the character of his social reality.

The open classroom appears to represent an attempt to make the social learning which is inherent in life a more conscious part of the classroom experience. The efforts to understand how this process works in operational terms has led to a search for dimensions of a learning environment in which participatory action is possible.

Here planning as the conscious process of influencing the social system and education as the consious process of influencing the individual become merged in the open education model. The reciprocity between the two suggests that the organization of the process of education within a society is a reflection of the social processes therein.

Operational dimensions of the social learning process from an education perspective, therefore, can be no different from those presented for planning theory. For the dimensions of a system responsive to individual development in a social context (social learning in

education) provide the basis for changed social behavior or social evolution over time. The dimensions of direct communication, group processes, applied activity, flexibility, participatory structure, and the goal of human development are offered to improve understanding of the individual in society and thus apply simultaneously to human learning as to social change.

In conclusion, Parts I and II of this paper show that theories of social learning from both planning and educational perspectives are really not distinct. They are reciprocal processes occurring through the relationship of the individual to society. It is only traditional practices within both planning and education fields which has made them distinct social functions - both attempting prescriptive solutions to social problems.

Part III will show how planning and education as social processes come together in the open education model. If social learning in both planning and education is represented by the model of participatory action, this paper can make this model more useful by showing how a dimension of it (group processes) operates on a molecular level (small scale setting of Webster Junior High School). Part III provides this bridge from macroscopic (i.e., social learning theory through a model of participatory action) to molecular (open education at Webster through a model of group processes).*

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*Refer back to Mill's schema, Introduction B, p. 5.

PART III.

THE BRIDGE FROM SOCIAL LEARNING THEORIES TO A SOCIAL LEARNING EXPERIMENT

This section provides a short bridge between social learning theories and a social learning experiment. Having distinguished between planning and educational definitions of the social learning process in Parts I and II, the attempt here is to explore the complementarity between the definitions both theoretically and practically.

Theoretically, the definitions might be brought together in a model of participatory action based on the following thesis:

> The individual and the society of which he is a member experience and change in a reciprocal process through experimental action. Critical to this parallel process of how the individual learns about society through action and how the society learns about the individual through action is the nature and structure of each social experience.

The open education model illustrates this dual learning process of the individual (student) and social setting (classroom) developing simultaneously in response to unique experience.

Practically, therefore, an experiment in open education provides a research setting for exploring the complementarity between the social learning process as a planning paradigm and as an educational curriculum. Specifically, the Webster Junior High School Learning Center illustrates how an action project can both change the character of the classroom and the social relations of the participants therein.

PLANNING DIMENSIONS OF THE SOCIAL LEARNING PROCESS

Part I identified six operational dimensions of a social learning system: (1) direct communication; (2) group processes; (3) applied activity; (4) flexibility; (5) participatory structure; and (6) overall

goal of human development.

Each of these dimensions is reflected in the open educational system. Essentially, open education refers to a child-centered system of education built on principles of flexible (4), non-authoritarian structure (5), which is able to evolve learning situations in response to student needs and initiative (5), in an atmosphere of strong teacher guidance and support. The overall goal within the open education system is the development of the child (6), and the assumption is that this is best achieved through a close student-teacher relationship (1); informal and direct peer relations (2); opportunities for self discovery through action projects (3); and small groupings (2). The character of the classroom essentially evolves in response to a unique set of participants in a unique setting; thus, it is situationally defined rather than authoritatively imposed.

EDUCATIONAL DIMENSIONS OF THE SOCIAL LEARNING PROCESS

Part II identified these same dimensions as critical to the process of the individual learning in society. In the classroom, social learning seems to require active student participation (5); teacher/student, student/student, student/outsider dialogue (1); flexibility in scheduling suitable for an experimental curriculum (4); an implicit primary goal of human development (6); and practical situations allowing "reality-testing" by the individual student and by groups of students acting co-operatively. (2 and 4.)

These requirements seem to be satisfied in an open education setting where the focus is upon the individual child and his development through relations with others during active classroom experiences.

In summary, the two views of social learning - one from planning theory as a social change model and one from educational theory as an individual learning model are manifest within an open educational setting. As a result an open classroom provides an ideal setting for empirically exploring the reciprocity between planning and educational processes. In so doing we are ultimately interested on a theoretical level in better understanding the dialectic between individual and society - man learning and society changing - processes of education in relation to planning methodologies. Practically, we are looking for a situation where the 2-way tension between the individual and the social setting seems to effect both in a cyclical process in order to better understand the social conditions which effect quality of social experiences.

This study focuses on the structure of social groups as a critical element to the social learning process on a planning or educational level. It attempts to discover how the group process effects both the capacity of the individual to change from his experiences and the capacity of the social setting to change from its experimentation. The first is education. The latter is planning.

The key to both processes is action as a basis for learning and change. In this project the experience of working with children in an open classroom provided the opportunity to observe and experiment with group processes in relation to an action planning.

THE WEBSTER LEARNING CENTER AS A SOCIAL LEARNING EXPERIMENT:

The setting for this experimentation was the Daniel Webster Junior High School Learning Center (West Los Angeles). The Learning Center was designed as an experimental program in open education. It initially

involved four teachers from core areas of English, history, math, and science along with one-hundred and sixty students diverse in family background, ethnicity, intelligence, and interests. As an "informal" or "open classroom" within a public school, the program stressed personal development through social interaction and problem solving experiences in contrast to the emphasis upon an individual achievement within the more traditional classrooms. The goals of the Learning Center parallel those listed under the discussion of open education.

Most significant for purposes of this study of the social learning process was the Learning Center's flexible and participatory structure that permitted the mutual involvement of students and teachers in action projects.

Selection of this setting for this action research was based on two criteria: 1) its character as an open education model; 2) its receptivity to my direct involvement as a participant observer. In April, 1971, I was contacted by Webster Learning Center co-ordinator, Elaine Craig, for assistance with an action project planning an ecology site with her eighth graders on a plot of vacant land adjacent to four Learning Center classrooms. Students within the program had initiated the project of developing the land into a laboratory for natural environmental learning including a pond ecosystem, desert area, and organic gardens and were looking for professional guidance in carrying through with their ideas.

A former agricultural site adjacent to the four Learning Center classrooms provided a vacant plot of land and served as an experimental field giving students a problem solving experience requiring co-operative social effort and a measure of planned thinking. Specifically, I hoped

that through the experiences of organizing students for planning tasks related to their project, I would learn more about organizing small groups in a manner conducive both to their learning and to my own knowledge of their situation.

As a planning experiment, the experience enabled me to explore the conditions under which a group of individuals might cooperatively engage in social action directed at changes in their immediate physical and social environment. As an educational experiment, the process aimed at discovering the effects of group structures (size and composition) upon student participation in the action project. Here the emphasis was upon observing and recording fluctuating group structures of size and composition during various stages of the planning project.

In the role of pariticpant observer within the Webster setting, I was able to observe fluctuating factors effective group effectiveness. At the same time, I was able to actively experiment with varying amounts of social interference. Thus, this process involved both a research function - i.e. a description of the phenomena of the social world, and a planning function - i.e. the attempt to change the situation to improve group effectiveness. This thesis has consistently argued that the two functions are combined in social learning theory. Again, the writing of George Herbert Mead succintly poses the dilemma of my role in the social experiment:

> "What is the function of reflective consciousness in its attempt to direct conduct?" (Petras, 1968, p. 128.)

My observations were kept daily in a journal from which excerpts are presented in Appendix A. Yet, for my experience to be brought to the level of consciousness, these observations had to be focused

on some narrowed problem or question. For this reason, hypotheses one and two were developed and evaluated in relation to group effectiveness in Appendix B. (data bank). Through the process of trying to relate such personal experience to theory, I was able to reflect upon the entire experience and to discover in retrospect things happening that the momentum of the social process prevented me from realizing at the time.

It should be noted that hindsight runs the same risk as foresight in distorting the nature of reality through abstract iterations. The "flavor" of personal experience is seldom captured in "pure" research, but rather is expressed through the anecdotes and feelings resulting from daily human contacts. The attempt to balance the findings and implications drawn from the Webster experience (Parts IV. and V.) with this human dimension which makes the experience unique to a time and place is made through two final appendixes consisting of personal portraits and slides. Such a record of personal experience thus completes the bridge from theory to practice.

PART IV.

THE EXPERIMENT: THE IMPACT OF GROUP STRUCUTRE (SIZE AND COMPOSITION) UPON GROUP EFFECTIVENESS IN ACTION PLANNING

A. The Problem.

It has been suggested in Parts I and II that group processes are critical to the individual actions resulting in social learning in both its planning and educational senses. However, better understanding is needed of the particular characteristics of groups capable of effective social action as well as of the conditions supporting such processes.

Obviously, limited group size becomes critical to the direct communication and participatory structure (re: both social scientist and social member) which are cited as fundamental dimensions of the social learning process (Part I). By the same token, the very word "social" implies man-in-relation to others within society and suggests moving the individual beyond his immediate communal circle (family, friends, etc.) into contact with diverse others who share his social space. How can group structures be both small enough to permit the experience of dialogue as well as large enough to permit the diversity of input critical to a social learning experience? This apparent paradox suggests focussing on variables of group size and group composition as critical to group effectiveness.

The problem of this study becomes one of discovering through experimentation the conditions under which groups of a particular size and of a certain mix of students become effective in an action project within the classroom.

B. Methodology.

The legitimacy of participant observation as a research methodology has already been argued in the introduction (Section C). Moreover, the importance of this experience based methodology to social learning is a central theme throughout this paper. Direct involvement in the Webster setting allowed me to explore the problem of groups structures effecting participation by experimenting with different group arrangements while keeping close records of the effects of changed groupings upon activity related to the ecology project. These records could later be systematized into a data bank capable of revealing new insights. The process is one of linking personal experience to abstract theory in order to yield new knowledge.

The results of my participant observation were recorded in an on-going log kept throughout the ten week period, April-June, 1972. A three-step process of interpreting this data was used to order to arrive at a clearer understanding of conditions influencing group effectiveness. Hypotheses for developing group structures were built initially around the themes of group size and group composition as two critical dimensions effecting group effectiveness. Each hypothesis was based on a search of earlier research or practical experiments so that empirical evidence from the Webster project might be used (a) to systematize these earlier insights; (b) to develop and test contingencies or contextual factors that would require modifications to each hypothesis. Results were aimed first at revealing a clearer basis for teacher (or facilitator) actions in structuring groups on the classroom level, and ultimately at contributing to the theory of group structures as a dimension of the social learning process.

The record of observations is contained in two parts within the appendix. Appendix A presents a raw chronology of the events related to the project, unbiased by a priori theory. It is extracted from the original journal kept following each visit to the Learning Center and contains random journalistic impressions not specifically related to the central hypotheses concerning group size and group composition.

Appendix B contains a data bank structured according to dimensions of H_1 and H_2. A chart is presented noting group size and composition for each day the researcher participated in the project in relation to tasks performed and a subjective evaluation of group effectiveness in terms of 3 dimensions: morale of participants, participatory structure (i.e. numbers of student participants) and project progress. Non-H_1 or H_2 dimensions (such as the nature of the task) here become revealed as possibly influencing effectiveness and are discussed as contingency factors when summarizing the impact of group size and group composition upon effectiveness.

This data is resynthesized. A data matrix in Section F specifically geared to H_1 and H_2 dimensions is presented dealing with each factor independently at first and then exploring the relationship between them. Subsequently, contingency factors are discussed separately in relation to each hypothesis and then together in an attempt to characterize the flexible dimensions of the open classroom.

Finally, major issues raised at any time during the process of experiencing-recording-synthesizing-reflecting upon this information are discussed in the final part under implications for future research.

C. Definitions and Measures.

For purposes of this study, the primary variables to be explored - group size and group composition - are defined within narrowed parameters. Group size is used to refer to the number of students contributing to a specific task or activity related to the project at a given time. It is measured by observations recorded at the end of each period of participant observation (usually following a day's visit).

Group composition refers to the amount heterogeneity in a group and is intended to assess the impact of diversity among individual students participating in the project. This diversity might have been measured along a variety of dimensions such as family background, ethnicity, intelligence, or school behavior. For several reasons, however, I decided to use race as the distinguishing measure for mixed composition. First, as racial integration is one of the most pressing problems within Webster Junior High School, providing heterogenous racial groupings is one of the prime objectives of the Learning Center. It is similarly an important consideration for educational planners in many other parts of the country. Bussing from the predominantly Black Crenshaw District along with a high Japanese-American population in West Los Angeles guaranteed a diverse population within the school, but the problem of transfering diversity into heterogeneous learning groups has on the classroom level remained more difficult. As Gail Bass points out in her thesis to the UCLA Planning School, "...extensive school and community planning is needed to transform a program of school desegregation in Los Angeles from one of mere physical desegregation to one of educational integration, and ultimately social integration." (Bass,

1971, pp. iv-v.)

Secondly, heterogeneity along racial dimensions could be easily identified and observed. Blacks and whites comprised the two largest observable groups as well as the most polarized ones in the school setting. Thus, the potential for social learning from attempts to bring them together was high for both the individuals involved and the researcher attempting to learn about group relations. It should be noted that it is often the more subtle distinctions among individuals - the sub-groupings of personality, interest, or intelligence types that provide the richest input into group dynamics and thus the richest potential for social learning for both individual and researcher. In addition, at Webster, more subtle diversity was provided along economic lines by the broad housing market in the West Los Angeles area comprising the bulk of the school population-e.g. numerous middle income apartments scattered amidst single family dwellings. But at this stage of our understanding of the social learning process it seemed imperative to select some distinct and easily measurable criteria for labelling heterogeneous groups around which the hypothesis related to group composition might be built.

Finally, it was readily apparent during my first visit to the Learning Center that the Blacks represented the most distinguishable group of non-participants in the project. Understanding their patterns of participation in relation to the project seemed both fruitful for the effectiveness of the particular project as well as for making generalizations concerning the impact of group composition upon the social learning process in other settings.

In summary, group size is here evaluated in relation to the size of a small group for undertaking specific action tasks; and group composition is evaluated in relation to the standard for heterogeneous groups of black/white collaboration on a task activity. The basis for selecting the standard measures used in H_1 and H_2 to evaluate small and heterogeneous groups is discussed in the section on prior experiences and is followed by a presentation of the actual hypotheses.

Group effectiveness is measured by the subjective evaluation of the researcher of each task activity related to the project in terms of 3 categories: (1) morale of the participants; (2) participatory structure (number of students participating within each group); and (3) project progress. The purpose of such broad criteria for defining effective participation is to guarantee evaluation that combines focus on the quality of the process (in terms of learning) with emphasis upon quantitiy of the product (in terms of progress or efficiency). Although the limitations of such subjective evaluations must certainly be admitted, the purpose of providing three dimensions to measuring effective participation was to assure consideration of both process and product as well as of both individual learning and group learning in relation to each task activity. It should be noted that it is not such an exceedingly difficult thing to evaluate the morale of a group of eighth graders pursuing a classroom activity; nor is it difficult note progress in relation to the project goals; the third criteria for effective participation, participatory structure, is a function of a quantifiable measure.

A distinction is made between project and task activities. The word project is used to refer to the broad goals which serve as an

umbrella for all activities carried under its theme over a period of time. In the Webster setting, the project is described as developing an ecology site within the school community for purposes of environmental education. The task activities related to the project are any planned or spontaneous activity that occurs in order to accomplish the goals of the project. These are usually very specific events, lasting a short period of time, and performed by a small group of individuals brought together either spontaneously or purposely to perform the task.

A similar distinction seems appropriate with the concepts of social pool and task groupings. The social pool refers to all individuals brought into the project in some capacity and available for future activities related to the project. Task groupings refer to those specific individuals who actually share in carrying out a task, and thus become part of the same group during a limited period of the project.

In using the word facilitator in this portion of the paper, I refer to my role of participant observer - i.e. researcher, planner, and in many instances, teacher - during this classroom project. Consequently, I use the personal knowledge generated from this experience with organzing groups within the classroom to make more general comments about teacher, planner, and researcher roles in relation to groups engaged in project activities. Specifically, the facilitator is the individual responsible for monitoring project organization and progress. Again, the validity of generalizations built from such specific experience must be understood in the context of this entire paper aimed at understanding the social learning process and participant observation as the methodology for understanding its dimensions and improving its application.

D. Prior Experience Generating Hypotheses:

Given the focus of experimentation within the Webster context upon group processes - specifically size and composition in relation to group effectiveness - it becomes important to develop some standards or hypotheses against which to evaluate the specific experiences related to the project. These standards represent a "reasonable" starting point for understanding group organization at Webster which can then be modified by the data record of the ten week experience to yield a set of principles concerning effective group structures capable of being transfered into other settings.

The importance of small group processes to planning and educational theories of social learning as well as to the philosophy of open education has already been discussed. In this section, the attempt is to build upon this notion through a process of synthesizing prior research and experiences into a set of ideas useful in generating "reasonable" hypotheses for the Webster setting.

A search for prior research dealing with the relationship between size and effectiveness in a behavior setting reveals few attempts to deal with concrete numbers for concepts such as "small" or "large" groups. The research of Roger G. Barker in Big School--Small School (studies of the effects of high school size upon the behavior and experiences of students) deals more generally with the relationship between size and participation in a social setting. He documents a negative correlation between behavior setting size and participation in extracurricular activities through his field investigation in two Kansas high schools and a review of previous studies citing an inverse relationship between size and participation.

Building upon this general relationship can provide a basis for the first hypothesis. At the same time, the experiences of others involved in educational experiments in action learning similar to the Webster ecology project can provide input into the understanding the concept of small group. For example, Chuck Rusch, Associate Professor of the School of Architecture and Urban Planning, UCLA, was concerned with optimal learning group size for bringing students together in his mobile open classroom (MOBOC). During his first year of experimentation with this concept (1971-72), he brought together a class of seven, ages 10-12, and converted a mini-bus into their mobile classroom so that they might draw upon the multi resources of Los Angeles through personal visits and experiences. His empirical observations have led him to consider groups of seven-eight optimal for the types of group learning experiences discussed in this paper. On the other hand, he cautions against any rigid numbers in isolation of a particular situation. He suggests that for a new group first attempting to coalesce, five or six students might be a more workable number, while groups of nine or ten or even upwards can develop into a productive group over time.

Finally, his experience suggest the notion of distinguishing between optimal group size for a task-specific learning group and a larger size for the social pool from which this group is drawn. The problem becomes one of balancing optimal size for "smallness" with an optimal size for "diversity" and suggests developing Hypothesis Two concerning group composition in conjuntion with Hypothesis One concerning group size.*

*This information resulted from a series of informal discussions with Professor Rusch during the spring quarter, 1972. His advice was particularly useful for the field aspects of this study.

The research of Lawrence and Lorsch in Organization and Environment addresses this balance between integration and differentiation by demonstrating an inverse relationship between the two - i.e. the more similar two departments are in structure and in the orientations of their personnel, the more effective is the integration between them. (Lawrence and Lorsch, 1967, p. 47.) Contradicting this argument is consistent rejection of the concept of homogenous grouping in the desegregation literature as reviewed by Gail Bass in a thesis presented to the UCLA planning school. (Bass, 1971, citing Deutsch, 1967; Goddlad, 1967; Katz, 1969, Lipton; 1964.) She recommends flexible classroom organization based on non-homogenous grouping, individualized instruction, and small, task-specific groups as critical to equality of opportunity in education for all groups and to social relations through cross-racial school experiences. (Bass, 1971.)

A final source of information from prior experiences useful to the experimentation of this study comes from the Webster Learning Center context itself. Learning Center co-ordinator, Elaine Craig, suggests the figure of five or six students as optimal for small group organization within the classroom. At the same time, she qualified this number by attributing greater significance to group composition as a factor in group effectiveness. Homogenous groups, in her opinion, tend to work well together regardless of their size; and it is diversity among students which causes difficulties in bringing groups together. Again, here the suggestion is that H_1 and H_2 (size and composition) must be dealt with as inter-relating hypotheses.

Similarly, knowledge of the project history within the Learning Center was influential in developing the initial hypotheses of this study. The original group initiating the ecology project consisted of five or six students interested in using the former agricultural site adjacent to the Learning Center classrooms as a zoo for animals. The idea had been discussed among two smaller groupings of students, but apparently it was this group of five or six which proved effective in actually initiating the project.

Together these prior experiences lay a strong basis for selecting the figure of five or six as optimal size for beginning group organization in a classroom context. At the same time, they suggest that the factor of size can not be considered in isolation of other variables which obviously had an impact upon effectiveness. Again, Lawrence and Lorsch (1967) are useful in suggesting a function for contingency theories in developing a conceptual framework with which to design an organization according to the tasks they are trying to perform. Contingency theories lay out the major relationships which must be dealt with in attempting to integrate a group for effectiveness.

An example of a contingency factor suggested from this prior experience is the role of the facilitator in group effectiveness. Discussion with Webster students about the project history revealed that they attributed most of the progress on the project prior to my participation to the direction they received from a visiting tutor who advised them on the project. The knowledge suggested the importance of either including the concept of facilitator as part of the definition of small group or dealing with it separately as a contingency factor influencing effectiveness. The validity of including it as part of the

definition was later reinforced during an informal discussion with John Holt at the International Design Conference, Aspen, Colorado, summer, 1972, in which he argued:

> Group size is less of a critical factor to student effectiveness in classroom activities than the role of the teacher in structuring and directing activities and approaches appropriate for accommodating a given number of students (e.g. an open classroom can accommodate more individuals than the traditional classroom of 30-35 through a system of monitoring, allowing the teacher to move freely around the classroom, supervising groups of fluctuating size.

In summary, these prior experiences suggest organizing hypotheses around the following principles:

1. Hypothesis #1 should deal with group size. The standard for small group might be seen as involving two parts: (1) an optimal number of individual participants; and (2) a facilitator or catayst for bringing the group together in action. Five or six students suggest reasonable base numbers for beginning group organization.

2. Hypothesis #2 should deal with group composition in relation to group effectiveness and should be considered in relation to hypothesis #1 in order to understand the balance between an optimal standard for small group (H_1) and optimal standard for heterogeneous group (H_2) as inversely related factors in group effectiveness.

3. Other factors should be explored as contingencies influencing group effectiveness.

E. Presentation of Hypothesis:

Two specific hypotheses concerning the relationship of group size and group composition to group effectiveness are derived from the prior experience data and serve as a context for empirical observation.

H_1: GROUP SIZE

Small tasks groupings involving 5 students in relation to 1 facilitator are likely to result in greater group effectiveness within a classroom project than larger or smaller task groupings.

H_2: GROUP COMPOSITION

Heterogeneous groupings (here defined as black and white students working cooperatively) have greater difficulty achieving group effectiveness within a classroom project and consequently depend upon other integrating variables for effectiveness.

F. Findings and Discussion:

Hypothesis #1: Group Size:

Scanning the data record contained in Appendixes A and B yields the following trends of fluctuating group size in relation to group effectiveness for various tasks:

1) Initial trend indicating inverse relationship between group size and group effectiveness (i.e. larger groups yielded small effectiveness and small groups yielded large effectiveness to the point where maximum effectiveness was observed in non-group context of direct one-to-one communication between myself and students).

2) Vast variations in size in relation to differing tasks throughout the project.

3) Most frequent notation of homogeneous groups of four students or less in relation to one facilitator working effectively.

The importance of this relationship between group size and group effectiveness was initially brought to my attention during my second visit to the Learning Center (4/10/72) by student complaints about the project's unmanageable size (the original "zoo group" of 5 or 6 students had expanded to include over 40 and the project was at a standstill). Initial sessions between me and Webster students were ineffective in achieving consensus on goals or making decisions. Moreover, discussions were monopolized by a small core of the group (4/10/72; 4/11/72; 4/20/72). It was only through direct conversations with one or two students (week of 4/13-4/20/72) that I was abie to lay the foundations for progress on the project. Thus, the extremes between success with one-to-one dialogue and failure with total group participation

(e.g. 40+ on 4/20/72) suggested to me the need for a conscious strategy of limiting size in order to increase effectiveness. Smaller groupings following 4/21/72 allowed for high levels of direct communication and evidence of effectiveness was provided through observable project progress.

To summarize data findings concerning Hypothesis #1:

Group Size in Relation to Group Effectiveness:

Groups of 4 + 1 facilitator (magic number 5) = most frequently observed for group effectiveness in terms of balancing all three criteria (social, individual, and economic effectiveness).

Groups of < 4 + facilitator = greater group effectiveness in terms of individual participation and project progress and less effectiveness in terms of social criteria (i.e. learning in relation to others).

Groups of > 4 + facilitator = greater group effectiveness in terms of social criteria (learning in relation to others) and less group effectiveness in terms of project progress criteria.

Thus, from the data in Appendix B it can be concluded that the optimal size for a small group is a function of task activity around which the group has been organized. The following table indicates the range and types of task activities and purposes that appeared appropriate for various group sizes during the Webster experiment:

OPTIMAL GROUP SIZE IN RELATION TO TASK ACTIVITY IN THE WEBSTER SETTING:

SIZE	TASK ACTIVITY
1-to-1/student-facilitator	--Optimal relationship for individualized teaching and diagnosing specific needs and interests of student. --Efficient for performing specific task activity. --Non-group context useful to integrating student into project prior to group effort. --Rich source of information to researcher concerning individual requirements in social setting.
2-3/facilitator	--High intensity group discussion with maximum participation and exchange among participants. --Spontaneous grouping for 2-way information exchange between students and participant observer.
4-5/facilitator	--Optimal balance between diversity in composition capable of effective discussion, achieving consensus, and performing specific task activities related to project. --Base figure for structured task grouping in learning atmosphere. --High degree of personal interaction between each group member and facilitator providing information for both.

SIZE	TASK ACTIVITY
6-9/facilitator	--Effective sub-grouping for project (e.g. garden group).
9-12	--Diverse social pool for project from which task specific groups can emerge. --Small enough grouping to be developed into an effective working group over time.
15-25	--More formal class grouping capable of being monitored by one facilitator. --Manageable through structure of an organized class session involving lecture by teacher or outside expert, media presentation, or formal, well-monitored class discussion focusing on common subject matter or theme.
40 +	--Capable of group decision making through parliamentary processes. --Capable of sharing interest in the same general problem or project through division of labor around specific task activities. --Rich input from heterogeneity.

Hypothesis #2: Group Composition:

Group composition as a factor influencing group effectiveness is considered in relation to a separate hypothesis so that it can become subject to another set of contingency theories aimed at establishing conditions under which heterogeneity of participation becomes possible within the project even with group size being limited to encourage maximum individual participation and direct social interaction.

The nature of the individual group members appears to have a large impact on group effectiveness. Group composition as a factor in group effectiveness seems to be concerned with the amount of integration among group members. Such integration, in turn appears to be a function of such factors as homogeneity of backgrounds, interests, goals among group participants; friendship patterns; or maturity of group allowing commonalities to develop over time.

As previously noted, the variable of group composition will be explored in terms of black/white relations within task groupings in the Webster setting. Scanning the synthesized data bank in Appendix B showing the composition of every group in relation to each task activity, yields the following trends:

1. Non-participation by blacks at the beginning of the project.
2. Non-participation by blacks during verbal planning session prior to action carry through on project.
3. Clustered and relatively non-participant black groups during large sessions (i.e. over 20 members).
4. First significant participation by blacks during pond week involving high amounts of activity (5/8/72)..

5. Conflict between racial groups during active work week due to differing expectations for project (e.g. those who had participated during all planning sessions (primarily whites) had begun developing sophisticated understanding of a pond ecosystem and proceeded cautiously and systematically to carry out their plans to achieve and ecologically balanced pond system. Black participation was of a more spontaneous nature. Their concerns were with active and rapid completion of the project and with aesthetic quality so that the pond area could be used for social/recreational functions.

6. Following the work week, participation by individual blacks increased in relation to specific task activities worked out with the facilitator.

Thus, the following factors can be seen as integrating variables enabling heterogenous groups to work effectivey:

1. Variety in tasks: Broadening range of task activities available in relation to project.
2. Role of teacher/facilitator: Structuring individual roles for participation so that different individuals might be integrated into the project social pool.
3. Decreased group size: Approaching one-to-one teacher/student contact as means of structuring a role for each student in project.

When these three integrating mechanisms are used to increase the number of participants in the project, regular task activities can be pursued with each new participant forming part of the social pool from which heterogenous groups are drawn.

Contingency Theories:

It is important to consider other factors evident in Appendix A but not carried over to Appendix B which might have asserted an influence on group effectiveness in relation to each task activity.

Apart from hypothesis #2 as a contingency of hypothesis #1, the next most frequently occurring factor in the data record is the role of the facilitator in influencing group effectiveness. This factor has already been taken into account in the definition of small group within H_1 (i.e. 5 students in relation to one facilitator). However, in retrospect, noting that this factor is consistently pulled out into the postscript of each journal entry, reiterates the significance of this variable in the Learning Center environment and warrants developing a separate contingency theory around this factor. The role of the facilitator should therefore be considered as a separate and independent influence upon the character of classroom activity. Obviously, as I fulfilled this role during the ten-week project, it can not be separated from the journalistic impressions or events on any given day. However, the data record does reveal a range of facilitator roles from establishing community rapport (4/3/72) to actively structuring roles for participation (5/2/72). In all cases the facilitator seems to serve a function as co-ordinator or liason among individual participants and between specific task activities related to the overall project. He can advocate and instigate process through facilitating activity or high levels of participation rather than product through efficiency in accomplishing pre-determined goals.

It seems significant that the role of facilitator appears less frequently as a factor in group effectiveness towards the end of the

project (from 5/23/72). The suggestion here is either that the need for this role becomes less as group effectiveness develops over time, or that the participant observer as facilitator becomes less aware of his separateness and power in relation to the project. It appears that over time the project takes on its own momentum and evolves a unique character from its own participants rather than merely adapting to the "design" of some outside planner.

The second contingency influencing group effectiveness is the nature of the task activity (4/11/72). This factor appears to account for the tremendous fluctuation in optional size for group effectiveness (see previous chart on optimal size in relation to task activity; also 4/27/72; 5/8/72; 5/9/72; 6/8/72).

The final contingency which stands out significantly through a review of the data record is time. Over time it appears that two things happened in the Webster setting: (1) the participant observer built up a rapport with various individuals and interest groups in the community (e.g. principal, teacher, students) that provided research information - a perspective useful in understanding the situational needs of the setting (5/23/72); (2) maximum participation in groups was able to increase without sacrificing effectiveness (5/17/72).

In addition, it appears that the group becomes capable of replacing the facilitator's role with it's own mechanisms for decision making, conflict resolution; dealing with crisis and control (5/15/72; 5/17/72; 5/24/72).

G. Summary:

In summary, group size and group composition should be seen as important variables influencing group effectiveness in action. They are inversely related as well as independently fluctuating in relation to contingency variables such as role of facilitator, nature of task activity, and time. In addition, these variables all interact and are mutually influenced by such contextual factors as structure or flexibility in the activity setting. These considerations represent issues which define the "rules of the game" and therefore, ultimately determine how the other variables will interact in a particular setting.

These variables that emerged from the Webster experience are summarized by the following code (see postscripts to Appendix A):

MAJOR VARIABLES:

H_1: Group Size	--Small enough to permit direct communication.
H_2: Group Composition	--Heterogenous enough to insure diversity of input (participatory structure).

CONTINGENCY FACTORS:

C_1: Role of facilitator	--Integrating mechanism by diagnosing interests and structuring roles for participation.
C_2: Nature of task activity	--Variation in size in relation to task to be accomplished (see chart, p. 50).
C_3: Time	--Development of group effectiveness over time.

ISSUES:	Larger planning concerns which provide the supporting context for change but are inconclusive factors in the Webster setting.
Structure	
Substantive knowledge (expert)	
Consensus on goals	
Crisis	
Production orientation	
Reflective thought	

Therefore:

1. Task groupings of 4 students + 1 facilitator offer a base for small group organization within a classroom project which balances the need for limited size to maximize direct experience with the need to establish large enough social pool to permit heterogenous groupings. However, this figure will fluctuate in relation factors such as nature and purpose of the task, teacher role as integrator, composition of members, and duration of project (time).

2. H_1 and H_2 (group size and group composition) are inversely related so that increased heterogeneity requires decreased size for group effectiveness, and vice versa, decreased heterogeneity allows for increasing the upper limit of group size for maintaining group effectiveness until a point where the integration of the project eliminates functional heterogeity of members and they become part of some project social pool.

3. Contingency variables to group size and group composition such as role of facilitator/teacher, nature and purpose of task, duration of task,(time), act as integrators for group effectiveness. These variables interact and define the flexible

dimensions of an open classroom which allows it to respond with group size and composition appropriate to a specific task activity.

4. The most significant contingency factor appears to be the role of the facilitator or teacher as this role ultimately controls other factors such as the nature of task activity, amount of structure, and time of association.

PART V.

IMPLICATIONS.

The purpose of this final section is to draw implications from the Webster experience into a unifying framework useful in two senses: first, as a guide to future action, and second, as a basis for further research. The principles that emerged from the Webster setting provide empirical input into the model of participatory action used to explain social learning. (Mills' schema 1-2: conclusions on the level of social philosophy, p. 6.) Those that relate to the first two classes of variables - H_1 and H_2 and contingencies - combine to suggest major implications for processes of planning and education, while the third class of issues were less clearly resolved and will require further exploration in other settings.

These principles apply equally to planning and educational processes. This reciprocity between processes of planning and education through social action has been established throughout this paper and perhaps the major implication of this study. It suggests that processes of planning and education are to a large degree social processes involving social groups in action to bring about change. This paper has sought to demonstrate the importance of both planning and education perspectives to social reform through a case study of an open classroom. The rationale for linking the process through the open education model is succinctly expressed by John Holt:

> "I only wonder whether an education revolution as profound as open education can survive in the long run unless it is or becomes a part of a wider and deeper notion or vision of life and social change. Without some such connection, some such

vision, I fear that it may either loose its vitality and capacity for growth or that it may be isolated and destroyed by those who see more clearly to what social and political consequence it might some day lead..." (Rachbone, 1971, p. 14.)

The variables yielded from the Webster experience as influencing group effectiveness summarized in Section G of Part IV. can be translated into general principles for understanding planning as a process of social learning through participatory action. These principles should lend support to the theoretical dimensions of the social learning process presented in Part I. (i.e. direct communication, group processes, system felxibility, applied action, participatory structure, and the goal of human development). The result should be a more operational framework for a social learning system.

MAJOR VARIABLES:

H_1: Size of Group. The social group coalescing for purposes of action must be small enough to permit direct communication among participants but large enough to permit a diverse range of input. In the Webster context, groups of four students in relation to one facilitator were able to maintain this balance between "smallness" and "diversity". However, this optimal size was found to fluctuate according to the nature of participants (heterogeneity), nature of task activity, role of facilitator, and time of association.

The implication of this principle for planning processes is that efforts to limit size (e.g. through schemes for decentralization, etc.) while increasing task-specific groupings can be productive in influencing the character of social communication and co-operation and ultimately the character of social change. Experimentation is required to evolve appropriate group size for a specific task or setting.

H_2: Heterogeneity of Group Members. Heterogeneity of group membership tends to decrease the optimal size for an effective group unless such diversity is compensated for by integrating variables. In the Webster context, mixed groups were able to work together through the efforts of the facilitator to structure individual roles for participation and to bring groups together around shared interests.

The implications of this principle for planning processes relate mainly to the concept of integration as a desirable social condition and to mechanisms for achieving successful integration. The extent to which the quality of participatory action in terms of potential for social learning is increased by facilitating a degree of heterogeneity remains to be explored through further experimentation. The lesson from Webster seems to be that diverse members can be brought together in co-operative activity with the help of integrating mechanisms.

CONTINGENCY FACTORS:

C_1: The Role of the Facilitator. The facilitator within a group can play a critical integrating role through direct communication (one-to-one dialogue) with individual students. Through communication he can identify individual interests and structure roles or tasks related to the project in order to capitalize upon these interests. In addition, the experience provides the researcher with information about the individual in relation to the social system which becomes valuable to his understanding of the social setting.

This principle relates directly to the role of the planner as participant observer which is a theme throughout this paper. In this role, the planner's direct involvement in the social system is one source

of his knowledge about that system which will effect his analysis of that system and consequently his future actions.

C_2: Nature of Task Activity (e.g. activity focus): Action can provide a catalyst for bringing people together for some shared purpose and thus provides the focal point for group processes. At Webster, the broad action umbrella was the ecology planning project. This was divided into three sub-projects around themes of the pond, desert, and garden areas. Within each of these sub-areas a series of small and fluctuating task activities were allowed to develop in response to student interests and project needs. The project umbrella served as a unifying theme and the goal for activity. The task groupings served mainly to build involvement in the project on the part of students.

This principle imples that action tasks can be developed with the primary purpose of involving broad numbers of participants in a shared activity. For the planning profession, this suggests that some experiential criteria for judging public policy might be developed.

C_3: Time. Building feelings of trust and common purpose within a group takes time. In Webster, the students working on the ecology project were able to work more effectively together by the end of the project in spite of increased numbers involved. In addition, those who started the project and stayed with it throughout were the most involved and seemed to have gained the most personally.

This principle implies a new set of evaluative criteria for planning. Emphasis must be on the process rather than merely the product, and, this process may be a slow, evolutionary one. Planning as action does not imply that every action will result in goal-directed change, but

rather that every action is part of a step-by-step process by which people and their relationship to their social environment change.

ISSUES FOR FURTHER RESEARCH:

Issues that emerged from the retrospective review of the data record included the following: the role of structure; substantive knowledge (expert); consensus on goals; crisis; product orientation; reflection, etc. All are factors influencing the effectiveness of groups within an open education setting. However, implications from these issues are not clear from the Webster experience and will require further exploration in other settings to become operational theory. In many cases these issues are at the very heart of understanding open education and provide the reason for the vast variety of interpretations and understandings associated with adopting such philosophical principles to a situational context. Issues can not be developed into contingency theories as they imply no scale; measurement of control; or standard for evaluating. Instead, they must be considered alongside hypothesis variables and contingency factors as instrumental contextual factors influencing effectiveness.

An appropriate example of a critical issue for understanding planning and educational processes in relation to open education is provided by the concept of structure. One of the major premises of open education is that the classroom environment should adopt an informal character through flexible and open structure. In several instances, this factor of structure emerged from the data record as infuential to group effectiveness. First, my role as a participant observer in a public school classroom was possible because of the willingness of

the Learning Center to open its doors to allow an "outsider" to both gather research information through observations and assist in classroom organization through participation. Secondly, the entire idea of developing a pond in a public school classroom reflected the program's "openness" to experimentation and flexibility in altering rules (i.e. violating a School Board ruling during the 1940's prohibiting building ponds on public school property). Third, the change in the status of the project from a special project involving only a few of the students to a formal course (i.e. Wednesday afternoon "mino-course" elective) illustrated the Center's flexibility in responding to student initiative and interests through its activities. Finally, the loose structure of this open classroom allowed small task specific groups - fluctuating in response to the changing project situation - to develop from the larger social pool of students in the program.

The implication is that open structure which is both flexible and participatory is required to support the notion of fluctuating task specific groups developing spontaneously in response to student interest and project needs. At Webster such flexibility was built into the Learning Center program with its flexible class scheduling opportunities for spontaneous interaction and informal class groupings, and respect for student initiative.

However, it will remain for such principles of open education to be explicitly defined and debated until they are understood in relation to individual development. Particularly, the role of the teacher as authority figure in control of the open classroom will require further

exploration. Often the seductive nature of concepts such as "open" or "unstructured" can obscure the actual nature of control - the subtle manipulation and the built-in limits which prevent anarachy in the open system. The risks of an "open" environment are effectively summarized by Robert Kahn:

> An organizational climate of leniency and tolerance sets a "tender trap" for the focal person; (a) he must take greater personal responsibility for decisions, and (b) "the organizational devices which bring the deviant back into line are more remote and slower to operate, but perhaps no less sure." (Kahn, 1964, p. 163.)

It is this issue of structure along with other issues of control which pose the major dilemmas of planning which so powerfully infuence the nature of individual and social experience. It is only through co-operatively experiencing and learning from such experiences through reflection that these issues will be understood and resolved by those whose environment they effect. The process is one of learning through experience and making such learning explicit so that it can be applied to future social experimentation and change.

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NOTES ON A PROCESS OF PARTICIPATORY ACTION

Preface:

The following appendixes contain the data record used to explore group effectiveness at Webster. Appendix A is my record of the experience extracted from my daily journal. Appendix B represents an attempt to systematically link an evaluation of the effectiveness of each group with H_1 and H_2 variables (size and composition). Appendixes C and D provide three personal protraits of students at Webster along with a few slides in an effort to emphasize the human dimension of this experience in conjunction with the more scientific analysis of variables influencing group effectiveness.

Reviewing these appendixes in retrospect, yields three classes of variables operative during the Webster experience. These emerge through the iterative process of experiencing-recording-systematizing and re-examining the data record. The first class includes H_1 and H_2 variables of group size and group composition,and represents the focal point for this research. Appendix B specifically examines each of these in relation to group effectiveness. The second class represents those re-occurring factors which appeared to assert a strong influence, and in retrospect stand out as determining factors in group effectiveness in many instances. These are labelled contingency factors and should be seen as working in conjunction with H_1 and H_2 variables to effect the performance of the groups. A final class of variables are labelled issues, and includes largely unresolved questions which seem to have influenced group effectiveness at Webster, but which hold an inconclusive

relationship to the other data. These issues will require exploration in other settings to become clearer.

These three classes of variables are identified in a bracketed postscript to each journal entry. The following code can be used to provide a direct link between this data record and the discussion of the findings in the text (Part IV, Sec. F.):

Major Variables = H_1 and H_2 (group size and group composition)

Contingency Factors = C_1, C_2 .... C_n

Issues = I_1, I_2, ... I_n

See Part IV, Sec. G (Summary) for a complete list of those variables which appeared most significant at Webster classified according to this code.

Appendix A: Raw Chronology Extracted from Journal (as kept by participant observer, Lucy Blackmar, during April 3 - June 6, 1972)

Date & Code	Journalistic Record of Events and Impressions
4/3/72 C_1=Facilitator	First visit to Webster Junior High Learning Center; led by a student on a tour of the ecology site adjacent to four L.C. classrooms; briefed on past history; met L.C. co-ordinator and social science teacher, Elaine Craig; discussed project and made arrangements to attend next scheduled session of the ecology group (called the "zoo group" by students). (My role as both active group facilitator and as researcher appeared as a significant factor influencing group effectiveness from the very beginning. The role here was one of establishing rapport and mutual interest. Thus, the role of facilitator suggests first contingency factor.)
4/10/72 H_1=Size C_1=Facilitator I=Substantive Knowledge I=Consensus on Goals	Attended two elective class sessions organized for purposes of planning ecology site; discussions focused on problems effecting project morale and progress -- e.g. conflict and confusion over three issues: 1) the departure of a tutor who had previously organized project; 2) a poisonous plant on the ecology site; 3) the question of how to keep outsiders off the site so as to control vandalism and other discipline problems; focus on such negative aspects of project seemed indicative of lack of consensus on goals among participants and lack of substantive knowledge essestial to carrying out goals (e.g. knowledge of conditions supporting fish life in a pond ecosystem); individual students interviewed expressed project problems as: lack of planning and organization and unmanageable size of group; teacher turned the discussion over to me and we agreed on the

Date & Code	Journalistic Record of Events and Impressions
4/10/72 (Con'd)	need for further planning sessions and scheduled one for the following day; concluded day by meeting with the principal to explain project and to secure his approval; he expressed skepticism and caution and stressed his desire to see concrete plans and proposals from students before any action could be pursued (e.g. filling pond). (Unmanageable size of group emerged as a factor in group effectiveness. It was unclear at this point how much of the conflict and confusion in the group was a result of lack of substantive knowledge, lack of consensus on goals, lack of planning and organization. Here again role of facilitator appeared important and these other questions appeared as potential issues.)
4/11/72 H_1=Size H_2=Composition C_1=Facilitator C_2=Task Activity	Held first planning session with interested students during lunch period; difficult to achieve group unity because of domination by "core group" members (i.e. those initiating project) combined with numerous independent efforts by individuals in isolation of group goals (e.g. one student showed me her personal plans for developing and experimenting with garden area and another boy produced a personal map and scheme for the pond area); my lack of knowledge as to project history and my unfamiliarity with the students and the Webster setting made any interference with the project organization difficult at this point; in order to help fill this gap in my understanding and to initiate some specific activity that might get students re-involved in this project, I encouraged four of the core members to write a brief history of the project as the beginning of a planning proposal for developing a pond ecosystem. At this point, the need for organization around smaller groups in order to create greater unity of purpose

Date & Code	Journalistic Record of Events and Impressions
4/11/72 (con'd)	appeared critical to further group effectiveness. (At this stage the only effective efforts appeared to be non-group oriented (individuals) of among homogenous small groups (core group); role of facilitator: need to understand past history and seemingly effective in generating initial activity to get students involved. The task activity of writing a history of the ecology project thus suggested a second contingency factor of nature of task activity.)
4/13/72 - 4/20/72 H_1=Size C_1=Facilitator C_3=Time	Critical period of building relations with school community and with teacher in order to establish rapport essential for further work and observations within school, and to improve my personal understanding of the situational context of Webster. (e.g. lengthy discussions with Learning Center co-ordinator and teacher, Elaine Craig; interview with principal to establish credibility; effort to revitalize interest among students through direct converstations and through memo describing the planning process and potential future of ecology project; making available to ecology group small sums of money for purchase of materials essential to project - from a small thesis fellowship provided me by National Endowment of the Arts.) (H_1 = Direct one-to-one conversations an important non-group activity prior to building groups; C_1 = role of facilitator: building relations with school community through one-to-one dialogue or making funds available; another contingency seems to be allowing enough time for these relations to develop (C_3).)

Date & Code	Journalistic Record of Events and Impressions
4/20/72 H_1=Size C_1=Facilitator I=Structure	Attempt to stabilize group membership prior to organizing small task groups; publicized open lunch meeting among all Learning Center students of which approximately 40 responded; group became totally unmanageable and out of control and demonstrated no unity or clarity of purpose in coming together; required shifting emphasis of session to achieving three smaller sub-groupings around some unifying theme - i.e. pond group, garden group, desert group; the students divided themselves into groups of 17, 6, and 8 respectively, around these themes with a fair amount of diversity represented within each group (although the garden group ended up being a close group of girl friends); the need for leadership within each group appeared important though within each group self-appointed student leaders seemed to emerge from those most interested and informed in that area; I attempted to use them as my communication link between each group. (H_1 = group size at this stage was clearly unmanageable. Role of the facilitator (C_1) emerged as major factor here in trying to organize small task groupings. In addition, factors such as flexibility, student choice, and spontaneous leadership appear to be major issues effecting the development of group here suggesting structure as an issue for further research.)
4/21/72 H_1=Size C_1=Facilitator I=Structure	Devoted three elective class periods during morning to consulting with students on project through unstructured conversations; small attendance at each session (less than 12) along with loose structure allowed a series of productive one-to-one conversations and small group discussions to develop spontaneously; served a dual purpose of motivating students and improving my personal understanding of participant needs. The experience suggests

Date & Code	Journalistic Record of Events and Impressions
4/21/72 (Con'd) H_1=Size C_1=Facilitator I=Structure	the following hypothesis: One-to-one dialogue between students and teacher provides a means of stimulating individual interest and motivation and thereby increasing likelihood that student will later participate in group processes related to project. In addition, such direct communication provides the teacher (facilitator) with information necessary to organizing and guiding the project (e.g. revealing students' goals, substantive knowledge, and attitudes). (C_1 = Role of facilitator: Critical to one-to-one dialogue with students. Here again, a major issue seemed to be the role of structure vs. spontaneity in developing productive conversations and eventually effective groups.)
4/24/72 H_1=Size H_2=Composition	Lunch session with garden group; small size and homogeneity of members made this one of the most productive sessions to date, thus suggesting size and composition as critical variables to group effectiveness (see Appendix B). (H_1 and H_2 (group size and composition) as variables mutually supporting group effectiveness.)
4/27/72 H_1=Size C_1=Facilitator C_2=Task Activity	Met with pond group while garden group met independently to carry through with tasks established at their session 3 days prior; experimented with dividing pond group around tasks based on individual interests; found students tended to divide among those interested in action oriented tasks involving direct physical activity and those preferring more passive, research oriented tasks involving verbal or written skills. (e.g. one group became interested

Date & Code	Journalistic Record of Events and Impressions
4/27/72 (con'd)	in surveying pond site and drawing a map while the other prefered to continue planning discussions and gathering information necessary for planning). (Here contingency variables such as nature of tasks and role of facilitator in motivating students toward tasks seem to be of critical importance in group effectiveness; role of facilitator: developing tasks around individual interests to limit size within each group.)
5/2/72 H_1=Size C_1=Facilitator	Counseling and monitoring of small group tasks established in previous group sessions; follow up on my part appears to be a central factor in what gets done; also, ability to structure new roles related to the project appears to be an important function of teacher or monitor; in addition, I met with pond group to prepare questions for pond expert. (C_1 = Role of facilitator: Structuring new roles and task activities for participation; importance of follow-up by facilitator to what gets done.)
5/4/72 I=Expert Knowledge	Visit to pond group meeting by doctoral candidate in biology to provide technical information on how to built an ecosystem; important to project in terms of providing expert knowledge, clear direction, and leaving group with a feeling of confidence and boosted morale. (This visit appeared to be the turning point in pond group effectiveness suggesting expert knowledge as an issue either influencing substantive knowledge or group confidence or both.)

Date & Code	Journalistic Record of Events and Impressions
5/5/72 C_1=Facilitator C_3=Time I=Expert Knowledge	Technical information provided by pond expert sparked a high amount of spontaneous activity among students including a nearly completed pond proposal written by one student; spent the day dividing task activities around completing the proposal and submitting it to the principal for approval; was able to secure tentative approval and begin outlining working schedule for following week; high level of activity and enthusiasm and impressive demonstrations of individual initiative; at this stage there appears to be a noticeable shift in my rapport with teacher and key students on project which made conversations with them looser and more valuable in providing me with information suggesting participant observation requires time in order to be successful. (Again, expert knowledge appeared to be a significant factor influencing spontaneous generation of activity; also, time (C_3) seemed important to developing the effectiveness of pond group and my rapport with it.)
5/8/72 H_1=Size C_1=Facilitator C_2=Task Activity I=Structure	Beginning of Pond Work Week; presented schedule of of tasks to be completed during week; series of small working groups turned out during each of 6 periods that I was available as monitor; high level of activity and movement provided an excellent opportunity for me to informally interview small groups of students in a non-threatening atmosphere; a developing sense of community and high amounts of social interaction were observable. (The major issue important to group effectiveness at this stage seemed to be the flexibility of the Learning Center in allowing student selection among electives during morning periods. This issue of flexibility will

Date & Code	Journalistic Record of Events and Impressions
5/8/72 (Con'd)	be discussed further under the issue of structure. This day also seemed effective because it was highly organized and supervised (C_1=facilitator) as well as action oriented (C_2=nature of task activity).
5/9/72 C_1=Facilitator C_2=Task Activity I=Structure I=Product	Spent all day supervising pond area as a series of small task groups worked throughout the day contributing specific tasks towards completion of the pond; escalating participation, enthusiasm, and co-operation in response to concrete evidence of progress; high activity level around pond site became focal point for developing community spirit; demonstrated the important of carry through to any participatory project - i.e. for the project method to work there must be a project that works; a key element in sustaining participatory action thus seems keeping project activity moving towards some tangible goal or product; the role of the project director or monitor becomes one of co-ordinating various task activities and structuring new activities to bring new participants into the process; flexible structure and scheduling, allows the project to respond to participant needs and to situational crises; in short, the high level of activity sustained throughout this day appeared illustrative of how a process of active experimentation can build a sense of community as well as the participatory base of the project. (The role of facilitator in organizing and supervising the pond work week and the action focus of the project at this stage seemed to invite high levels of participation by students; issues raised concern the structure appropriate to support such participation and the importance of a successful product or goal achievement.)

Date & Code	Journalistic Record of Events and Impressions
5/10/72 C_1=Facilitator C_3=Time I=Crisis	Crisis of rock throwing incident prompted need for pond group to develop specific rules for controlling pond site and insuring safety and responsibility; while this incident temporarily lowered morale, the crisis provided an opportunity for pond group to "pause and reconsider"; during this period, I was able to engage in a series of conversations with L.C. co-ordinator concerning the success of the entire Learning Center concept during its first year of experimentation and she allowed me access to evaluation questionnaires filled out by parents; the results of such talk appeared both useful to her in opening up her program to an "outside" perspective and to myself in providing me with a more detailed "inside" perspective; here, the significant lesson seems that trust takes time; it is my feeling that only now after a month's involvement at Webster I am beginning to understand the situational context well enough to be of some use in planning. (Crisis seemed to be the critical factor effecting the project at this point suggesting an issue as to whether it served to disrupt group or bring it together; also time and the role of the facilitator seemed to serve a function in handling the crisis.)
5/12/72 H_1=Size C_1=Facilitator I=Structure	Report Card Day: Mrs. Craig asked me to take over her morning classes while she filled out report cards; arrived at 8:30 with two colleagues from SAUP (Judy Kossy and Beth Beloff) in order to take advantage of morning with a series of small group work sessions aimed at developing rules system for pond area- each group with a separate leader; the combination of small groups

Date & Code	Journalistic Record of Events and Impressions
5/12/72 (Con'd)	of 4-6 plus one facilitator was intended to explore the productivity of this size; sessions seemed successful with fairly high level, participatory discussion reported; in addition, with two extra group facilitators I was free to discuss individual performance on pond project with science teacher so as to persuade her to raise several grades on the basis of participation in this action project; also, additional personnel increased the amount of direct communication with students - a critical factor in their motivation. (The relationship between small group effectiveness and guidance appeared strong at this point; it seems that extra facilitators made possible to decrease group size as well as increase effectiveness. Also, the flexibility of the L.C. structure was a critical issue making such outside assistance possible.)
5/15/72 C=Time I=Crisis I=Product	Crisis of the leaking pond prompted series of ad hoc strategy sessions; interest in pond project appears declining - possibly related to impatience, boredom, feelings of failure, end of year lethargy; feelings of resentment among some whose over-involvement in this elective project had cost them in terms of grades - i.e. "What are the rewards of involvement?" (Here a crisis seemed to assert a negative impact on group effectiveness whereas the previous crisis of the rock throwing incident served to bring the group together; possibly time is a critical factor effecting group reaction to crisis; also, the issue of success or tangible product appeared here as a strong influence on student feelings and morale - i.e. how much failure and how much inactivity will be tolerated before participants become alienated?)

Date & Code	Journalistic Record of Events and Impressions
5/17/72 C_3=Time I=Structure	Ecology project elevated to formal status of "mini course" - i.e. offered as a scheduled class option on Wednesday afternoons on experimental basis; this might be taken as evidence that the morning flexibility in the Learning Center was being extended to the afternoon; also indicated that the project had been successful in pulling together a permanent group of committed participants and allowed for bringing them together on a more formal basis; further evidence of the community spirit being generated by the project was provided by spontaneous gatherings on pond group members around pond to socialize and eat lunches; provided an exceptionally good time to relax and to get to know students on a personal basis as well as an opportunity for them to interact informally with each other. Problem of the leaking pond provided the first "problem-solving" focus for mini course. (The principle of experimentation evolving change seemed demonstrated by change in the status of the ecology project at this point; critical issues to the success of such experimentation seemed to be time and flexibility of structure allowing for both formal course offerings and spontaneous gatherings.)
5/19/72 C_1=Facilitator I=Structure	Scheduled work day to drain pond postponed because of rain; forced participants inside and substituted an informal discussion of possibilities for making a documentary of Learning Center - difficult to sustain interest in discussion possibly due to the lack of activity; basically unstructured day allowed for great amounts of social interaction and informal talking.

Date & Code	Journalistic Record of Events and Impressions
5/19/72 (Con'd)	(Flexibility allowing for shifts in plans or activities to respond to unexpected events (rain) or changes in mood of participants (low activity).)
5/22/72 C_1=Facilitator I=Structure	Continued experimentation with techniques for mending the pond among most active members of pond group; left others without much to do and dwindling interest; used this period of low activity/low interest for a series of informal discussions with students which proved very informative and revealed an obvious desire on the part of many of the students to talk.
5/23/72 C_3=Time	Continued informal interviews with students experimenting with several taped sessions with two students at a time sitting with me near pond site; found students with whom I had worked, relaxed, easy to talk to, and extremely anxious to express their feelings; here it appeared that time played a critical function in building this rapport. (The duration of the project (time) is here seen not so much important to group effectiveness but rather as useful for the researcher gathering information.)
5/24/72 H_1=Size I=Outside Threat I=Structure	Inspection of ecology site by principal; students pulled together an impressive show of unity in his presence; following this visit, total zoo group met in mini course and proceeded to formalize their organization through elections of heads for each sub-group, developing rules applicable to all groups, and establishing prerequisites for membership; greater degree of developed sophistication in handling such formal processes.

Date & Code	Journalistic Record of Events and Impressions
5/24/72 (Con'd)	(Response to an outside threat (the principal) served to unify the group despite its larger numbers; to handle these larger numbers, it seemed necessary to develop more formal organization - perhaps parliamentary procedures - thus building maximum participation through structure)
5/26/72	Attended mock-presidential primary at Learning Center and observed students engaged in another activity project; interesting perspective outside the context of the ecology project.
6/7/72 H_1=Size I=Structure	Last zoo group mini-course with maximum attendance to date (42) and composition mix proportional to the Learning Center; focus on problem of where and how to plant two trees donated to L.C.; these larger groups appear more successful either with high amount of structure or particular problem solving focus. (Again, the use of a problem solving focus as a structured means of handling large numbers appeared significant.)
6/8/72 H_1=Size C_2=Task Activity	Tree planting session offering a good example of experimentation with task-specific action. (Need for a specific action task to bring effective small groups together on an ad hoc basis.)
6/12/72 I=Role of reflection in making learning explicit	Final visit to Learning Center devoted to informal discussion, evaluation, and future projections in relation to the project; a common feeling expressed by students was that the project required better organization and more planning to be successful next year; demonstrated their awareness of the advantages to be shared through

Date & Code	Journalistic Record of Events and Impressions
6/12/72 (Con'd)	co-operative group planning and action even if they are somewhat less successful in translating this consciousness into practice. This final attempt at self-evaluation or retrospective viewing of the action process by participants appeared important to bringing lessons from the experience to level of consciousness. This issue of the role of reflection in making learning explicit is discussed under implications for the future (Part V.).

In conclusion, 3 variables emerged as critical to group processes besides size and composition. These were: 1) role of teacher (facilitator); 2) nature of task to be performed; 3) length of time group had been together. The experience suggested a tendency within the group over time to be able to:

--Maintain larger, more efficient business meetings as forums for exchanging ideas or establishing rules or policies effecting all (participatory structure).

--Conduct more productive and personal conversations on a one-to-one basis.

--Develop more mixed, task related groups fluctuating in size according to the nature of the task to be performed.

Keeping these variables in mind, it then becomes useful to re-organize this data along dimensions of H_1 and H_2 to discover what specific relationships appeared to exist between variables of group size, group

composition, and what this paper is labelling group effectiveness. This will be done in Appendix B. which follows.

APPENDIX B: CHRONOLOGICAL RECORD OF GROUP STRUCTURE AND EVALUATION OF EFFECTIVENESS

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
4/10/72	20	Mixed in proportion to L.C.	Elective class to discuss project future	Low	No (student input dominated by core members)	Little
	less than 15	Mixed	Elective class to discuss project future	Low	No (core group/ no minority pariticipation)	Little
4/11/72	15-20	Girls (3:1) and no Blacks	Voluntary lunch planning session	Low (high expectations resulted in frustations at chaotic meeting)	No (interest limited to a few participants)	Negative
4/13/72 - 4/20/72	1-to-1	Researcher in relation to diverse individuals: teacher, principal, students outside expert	Face-to-face conversations critical to building relations between participant observer and school community	High	No (researcher in role of monitor in bringing separate interests to bear on the project)	Some (building foundations for project future)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
4/20/72	40	Entire group to date (mixed proportionally to L.C.)	Explaining participation in project and division into sub-groups around 3 areas of interest.	Low (Total chaos)	No (no effective input except by core members)	None
4/21/72	6	Clique of girl friends	Elective class meeting on garden site to evaluate progress and make future plans	Fair (meeting on location and seeing radishes grown helped enthusiasm)	Yes (informal session with a purpose encouraged input)	Some (Most successful communication to date)
	10-12	Mixed	Elective class to plan pond project: broke into small group discussions of 2-3 with facilitator bt. groups	High	Yes (interchange through informal, small groups)	Some (Excellent small discussions with 4 per group)
	6-9	Homogenous (girl friends)	1st separate meeting of garden groups	High	Yes (among homogenous group)	Some good discussion but limited concrete progress

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
4/24/72	4	Homogenous (girl friends)	Lunch meeting of garden group to plan	Very High	Yes. Maximum participation and interaction between researcher + 4 participants	Substantial division of specific tasks
4/28/72	6	Homogenous	Garden Group	High	Yes. Maximum participation and interaction between researcher + 4 participants	Substantial
	4	Boys (group of friends)	Drawing a map of pond area to scale	High (Enthusiasm)	Yes. Co-operative group but non-homogenous	Substantial
	6-8	Mixed pond group members	Plannsion session for pond	High	Yes. Input from all through conscious effort of researcher to include fringe members	Little. (Major disagreement on pond goals.)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/2/72	15-20	Mixed	Elective class to prepare questions & research prior to visit by pond expert	High Enthusiasm	Yes. Researcher monitoring individual tasks and entering into conversations with small groups (tasks included writing pond proposal, desert proposal, mapping area, research on pond ecosystems or desert biomes, writing questions) groups of less than 4.	Substantial. (Very successful session.)
5/4/72	16	Mixed	Outside expert on pond ecosystems	High	No. Mostly listening to factual information with good questions by selected individuals	Substantial. (Clear information & direction on how to proceed.)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/5/72	Individuals performing tasks under direction of researcher to complete pond proposal and push through approval.			High	No. Maximum individual initiative co-operation with researcher aimed at completing proposal.	Substantial
5/8/72	6	Core members of pond group.	POND WORK WEEK: Series of small task groups working throughout the day during free periods. (Measuring surface area of pond, etc.)	High	Yes. Contributions by all.	Substantial
	3	Girls - racially mixed	Small turn-out for pond work resulted in discussion of Learning Center with researcher rather than project work - extremely informative.	High	Yes. Contributions to discussion by all	No
	6	Mixed 4 girls, 2 boys, 2 blacks	Clearing rocks and smoothing pond bottom	High	Yes. Contributions by all in very spirited/ communal atmosphere.	Yes: Productive work

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/8/72 (Con'd)	20	Mixed	Lunch session around the pond area.	High	Yes. (clustered in small, informal groups changing frequently)	Yes. (Most impressive evidence to date of building sense of community in relation to project.)
5/9/72	12 10 4 2 4	Mixed with highest participation by blacks to date.	6 hour work day: series of fluctuating groups in response to developing character of project and emergence of specific tasks to be performed - e.g. laying plastic, staking and fencing area for safety.	High (Exuberant)	Yes.	Maximum. (Most noticed progress in terms of concrete action to date.)
	Entire group in varied numbers at a time	Mixed.	Day culminated by filling of pond which brought series of spectators to site and had tremendous impact on sense of community related to project.	High	Yes. Co-operation and individual initiative in contributing necessary tasks.	Yes. (Hard work and series of critical on the spot decisions effecting character of project)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/10/72	Crisis	Mixed	Crisis of rock throwing incident in pond area caused teacher to prohibit future work until group met as whole to agree on rules for controlling area.	Low	No. (Teacher in authoritarian role prohibiting activity on pond site until rules were developed.	None
5/12/72	3 groups 4-6 each + 1 facilitator	Mixed	Small group discussion for developing rules for pond site.	Fair	Yes. (Function of high amount of direction provided by three monitors)	Yes. (Function of small group size and crisis nature of problem)
5/15/72	3 ad hoc leaders and facilitator	Core group	Crisis of the leaking pond.	Low (declining interest)	No. (Failed to function as a group but offered individual solutions to problem)	No. (Lack of factual or expert knowledge to apply to problem)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/17/72	Small, informal groups fluctuating with high amount of 1-to-1 communication.	Mixed (from pond group)	Informal discussions about Learning Center	Fair	Yes. (Able to involve maximum number of students through a large amount of direct communication.)	No. (No activity focus but informative for researcher.)
	9	Mixed (among most active participants)	Lunch around the pond	Very high	Yes. (Most observable sense of community to date; a model of fluctuating small groups engaged in high level discussion.)	No direct progress (but spontaneous gathering as indicator of developing group unity).
	35+	Mixed proportional to L.C.	First schedule afternoon minicourse related to project.	Fair (noisy, chaotic meeting)	No. (First attempt at formal parliamentary procedures; dominated by core members with peripheral members losing interest)	Little. (But evidence of formal parliamentary structure emerging out of project)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/17/72 (Con'd)	40	Mixed proportional to Learning Center (largest Black participation to date --16)	Town Meeting for Learning Center: formalizing pond rules and making recommendations to Judicial committee for control.	Fair. (Demonstrable competance with parliamentary procedures but less overall interest)	Dominated by core members.	Yes. Proposals necessary to project presented and ratified.
5/19/72	10	Those interested in active work.	Scheduled class work session to drain pond in order to patch holes causing leaking. Forced indoors by rain.	Low. (Little interest in ad hoc indoor discussion.)	Small	None
	10-12	Mixed: half interested in outdoor active work and half interested in indoor planning discussion.	Mixed. Indoor and outdoor activities with researcher monitoring between groups.	Fair	Small	No. (Proved difficult to sustain high interest level in both groups.)

DATE	GROUP SIZE	GROUP COMPOSITION	TASK FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
5/22/72	9-10	Core working team of boys (3 blacks)	Repairing pond.	High	Co-operative efficient work group	Yes. Accomplished task.
	7	Mixed and members of all 3 groups with free time.	Individual tasks and small group discussions monitored by researcher (e.g. planning & writing article on history of project; inspecting garden plots; discussing problem of vandalism which had occurred on the ecology site the night before)	Fair	Limited	Small
5/23/72	1-to-1 & small groups of 2-1 or 3-1 with researcher	Core members	Series of informal interviews outside on land between researcher and those students best known.	Very high (rapport bt. students and participant observer)	High	No. (But extremely informative for researcher.)
	40 + total group	Mixed proportional to Learning Center.	Inspection by principal	Outstanding unified front presented to principal. High sense of community.		

DATE	GROUP SIZE	GROUP COMPOSITION	TASK/ FUNCTION	GROUP EFFECTIVENESS		
				Morale	Participatory Input	Progress
	42	Mixed proportionally to Learning Center	1. Whole group planning session: parliamentary procedure.	Fair	Limited to core members.	Some
			2. Small group task forces to observe site and develop criteria for planning location for two donated trees.	Fair	Maximum participation within each group although some from larger group failed to join any task group.	Task complete
6/8/72	5 +	Mixed	Work session to carry out plans of the previous day for planting trees.	Low	Limited	Little interest (but got task done)

Appendix C: Personal Portraits (Assuming Fictitious Names)

Case I:

> John: White...intelligent...precocious...articulate... effeminate...not particularly well liked by other students... conscientious...sensitive...adult acting...an initiator of the zoo group project...

While John seemed the epitome of a "teacher's pet", he was apparently unable to perform consistently in the four Learning Center classes. He seemed an ideal candidate for the Learning Center's unstructured atmosphere because of his tendency to underachieve in traditional classes--to get lost in his own daydreams. His ideas were abundant and mature, but he seemed unable to harness them with the discipline necessary to becoming an effective student. Consistently he failed to turn in assignments, and as a result, he failed to gain the credit necessary for so called "academic success".

I had more individual conversations with John than any other student during my ten weeks at Webster. In a sense, the "zoo group" project became his personal responsibility, and from the hours he devoted to it, he gained obvious pride and confidence. He had originally conceived of the idea of building a pond ecosystem and was sophisticated in his understanding of the intricate process involved in simulating a natural, self-supporting system. Further, he probably was more aware than any of the other students of the real political and personal obstacles to carrying out such a project in the public schools.

He needed a feeling of being successful - something to commit his talent and energy to and something to draw him into contact and communication with the other Learning Center students. The zoo group

project was his chance. On his own initiative, he became totally involved in it; wrote the pond proposal which was both gramatically and technically impressive; and became my major liaison with the other students--calling and organizing meetings and keeping abreast with their progress. In a sense he served as my "native informant"--an indispensible role for the type of rapport I tried to establish at Webster.

Case II:

> Darrell: Black...bright...clever...abounding with energy... quick...self-confident..ambitious..scheming...on top of it...

To offer Darrell anything - either academically or culturally enriching - placed a tremendous challenge upon the Webster Junior High School. He was one of the blacks bused in from the Crenshaw District to achieve a racial balance at Webster - essentially a foreigner in the West Los Angeles school and away from all his neighborhood friends. But this didn't seem to matter to him personally as school didn't matter to him personally. He operated with an "air" of confidence - always getting by because he was too darn bright and clever not to get by, but never really getting ahead. He didn't find most of the other Learning Center students very exciting or most of their projects very worthwhile. His teachers often found him loveable, but most despaired of ever really motivating him.

One day several weeks after I had begun working at Webster he drifted out to the pond site to observe the commotion of pond building (planning and measuring and digging and clearing, etc.). He immediately pitched in and stayed to contribute substantially to the final project. He was one of the first blacks to get actively involved in the project - his cohorts had been conspicuously absent from the planning phases of the project. A "real" pond right outside the classroom had enough of a fanciful flare to be worth a bit of time - and mornings out in the sun were infinitely preferable to being cooped up classes.

Through the pond project, Darrell got more involved in the Learning Center. He seemed to thrive on recognition of his work on the pond project.

He loved making suggestions to me personally about how the project ought to be run, though he didn't seem as anxious to share his thoughts with his fellow classmates. One day he spontaneously presented a map he had drawn of the pond area; and another time he wrote a proposal to the principal for repairing a broken fence on the ecology site. He appeared to take tremendous personal pride in such individual efforts.

We talked alot. Darrell needed a friend who could listen with a non-judging ear so that he could make some sense of it all just by hearing it. And I needed "educating" on "how to beat the system". His topics ranged from "how to be truant and not get caught" to "how to pick a pad lock and keep the alarm from sounding" to "how to steal a mini-bike and sell it on the black market". His grasp of the cultural environment that was his everyday world suprased that of his fellow students. Indeed, he demonstrated such a sophisticated understanding of his personal evnironment and a self-designed set of values for acting therein, that it seemed ironical to think of the school as offering him any "environmental"or social learning.

As an individual, Darrell thrived. But one couldn't help wonder where he'd find a social role. Maybe he wasn't made for any school, but at least an open type classroom seemed to provide him some of the freedom he demanded. It increased the chance that he might accidentally fall into a worth-while project; it reduced the pressure for conformity; it somehow respected his restlessness. And the enthusiasm with which he responded to the pond project - an action project in the shcool - offered a convincing case that he was more alive in a flexible, unstructured program than in a traditional classroom.

Case III.

Anna: Japanese-American...mature...introverted...quiet... intellectual...sensitive...unapproachable...bored...distant...

The first time I spoke to Anna, she was lounging on one of the Learning Center couches reading Reiss's book, How the Other Half Lives. She seemed detached - totally lost in her own world - oblivious of her surfoundings. I had noticed her several times before, but had never seen her join in any Learning Center activities or converse with any of the other students. She stood out noticeably from the other eighth graders as she sat isolated in a corner either enraptured in her book or intensely pondering her internal thoughts--silent and mystical...

The contrast of the abounding activity level in the rest of the Learning Center was remarkable. Here movement and verbalization created a scene almost like the choreography of a dance performance set wild to fanciful sound...everything dynamic and alive with a vitalness...almost intoletant of those who would remain aloof.

I began a conversation with Anna about her book, and her quiet sophistication in discussing it amazed me. We talked of other writings dealing with poverty and wealth in America - Harrington's The Other America, Galbraith's The Affluent Society - and of the plight of Japanese-Americans within the United States - until she abruptly broke into this train of thought by asking me if I'd like a kitten! Shifting from an intellectual plain to a personal discussion allowed her to express her sense of alienation towards school. She stayed in the Learning Center because it allowed "you to do what you wanted to do."

But she showed no interest in the zoo group project. She attended the elective classes scheduled for group meetings because she knew she would get hassled less there than elsewhere in the school. But she was obviously just biding time in school.

Learning Center teacher, Elaine Craig, was frustrated in her attempts to reach her - and had resigned herself to the belief that at least Anna was better off in a flexibly structured program than in some rigid class that demanded from her a prescribed level of performance. She sensed some of the students of Japanese-American descent in the Learning Center suffered in the loosely structured atmosphere because of their shyness. The quiet, non-aggressive student seemed overlooked in such a dynamic, high-powered setting.

After this initial conversation, I had at least a friendly rapport with Anna, and she would surprise me by showing up occasionally at a discussion I would organize with members of the project. She never really actively participated, but she seemed to like being included and would respond when I asked her her opinion. From her initial attitude of scoff and cynicism towards the project, she actually came to acknowledge her classmates' project and to respond emotionally to the idea of revitalizing a bit of land. It was only at the very end of the year when two trees were donated to the Learning Center that she actually pitched in to contribute. She had come a long way through a process of personal growth.